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# SECRET MEDICINE SOCIETIES OF THE SENECA

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DURING the last six years the writer has made a detailed field study of the various phases of Iroquois culture, special attention being directed to the rites and ceremonies of the semi-secret orders and societies that yet survive among the so-called pagan Iroquois. It was only after diligent inquiry that the actual existence of these societies was clearly established. The False-face Company and the Secret Medicine Society, better termed The Little Water Company, have been known to ethnologists for some time, but no one has adequately described them or has seemed fully aware of their significance. Likewise certain dances, such as the Bird, the Bear, the Buffalo, the Dark, and the Death dances, have been mentioned. Ceremonies also, such as the Otter Ceremony and the Woman's Song, have been listed, but that back of all these ceremonies there was a society never seems to have occurred to anyone. The Indians do not volunteer information, and when some rite is mentioned they usually call it a dance. Through this subterfuge the existence of these societies has long been concealed, not only from white investigators but from Christian Indians as well, the latter usually professing ignorance of the "pagan practices" of their unprogressive brothers.

Even so close an observer as Lewis H. Morgan says: "The Senecas have lost their Medicine Lodges, which fell out in modern times; but they formerly existed and formed an important part of their religious system. To hold a Medicine Lodge was to observe their highest religious mysteries. They had two such organiza-

tions, one for each phratry, which shows still further the natural connection of the phratry and the religious observances. Very little is now known concerning these lodges or their ceremonies. Each was a brotherhood into which new members were admitted by formal initiation."[1]

Morgan's experience is that of most observers, close as their observation may be. The writer, with the assistance of his wife, however, living with the "pagans" and entering fully into their rites, discovered that the "medicine lodges," so far from having become extinct, are still active organizations, exercising a great amount of influence not only over the pagans but also over the nominal Christians.

It was found that the organization and rites of the societies might best be studied among the Seneca, who have preserved their rituals with great fidelity. The Onondaga, although keeping up the form of some, have lost many of the ancient features and look to the Seneca for the correct forms.

The teachings of *Ganio'dai'io'*, Handsome Lake, the Seneca prophet, revolutionized the religious life of the Iroquois to a large extent, its greatest immediate effect being on the Seneca and Onondaga. Later it greatly influenced the Canadian Iroquois, excepting perhaps the Mohawk about the St Lawrence. Handsome Lake sought to destroy the ancient folk-ways of the people and to substitute a new system, built of course upon the framework of the old. Finding that he made little headway in his teachings, he sought to destroy the societies and orders that conserved the older religious rites, by proclaiming a revelation from the Creator. The divine decree was a command that all the animal societies hold a final meeting at a certain time, throw tobacco in the ceremonial fires, and dissolve. The heavenly reason for this order, Handsome Lake explained, was that men were unacquainted with the effects of their familiarity with the spirits of the animals, which, although they might bring fortune and healing to the members of the animal's order, might work terrible harm to men and to other animals.[2]

[1] Morgan, Ancient Society, p. 97, ed. 1907.

[2] The Code of Handsome Lake, Sec. 29, 30. Translated by William Bluesky and A. C. Parker. Manuscript in N. Y. State Library.

The chiefs who were friendly to the prophet and others who were frightened by his threats met in council and proclaimed that all the animal and mystery societies should immediately dissolve, and, by their order, were dissolved and disbanded. This they did without holding a *hayänt'wũtgũs*, tobacco-throwing ceremony, as directed. The members of the societies, therefore, declared that the order of the council was illegal and not binding, that the sin of disobedience was upon the chiefs and not upon the body of members. The societies consequently continued their rites, although they found it expedient to do so secretly, for they were branded as witches and wizards,[1] and the members of one society at least were executed as sorcerers when they were found practising their arts.

The existence of the societies became doubly veiled. The zealous proselytes of the New Religion denied their legality and even their existence, and the adherents of the old system did not care to express themselves too strongly in the matter of proclaiming their sacred orders still very much alive. The rites of the societies were performed in secret places for a number of years after the advent of the prophet, but as the adherents of the New Religion became more conservative, the societies again gradually entered into public ceremonies held in the council houses on thanksgiving occasions. At such times some of them gave public exhibitions of their rites; others had no public ceremonies whatsoever. With the gradual acceptance of the New Religion by the great majority of the people, the older religious belief was blended into the new. The Iroquois regard it as their Old Testament. The tabooed societies became bolder in their operations, and the new religionists entered their folds with few if any qualms.

It was about this time that their policy seems to have changed, for after some inquiry the writer can find no restriction placed on membership by reason of phratry or clanship. Candidates might join any society regardless of clan except the society of Men-who-assist-the-women's-ceremonies, which is not a secret organization. This society consists of two divisions, the membership of a division being determined by phratry. It is purely a benevolent society,

[1] The modern Iroquois call all sorcerers and conjurers, regardless of sex, "witches." They never use the masculine form.

however, and has nothing to do with "medicine." The various societies of all kinds had, and still have, individual lodges, each of which is nominally independent of any jurisdiction save that of its own officers. The leaders, however, confer and keep their rites uniform. At present, especially in the Little Water Company, it is not even necessary for the song-holder, the chief officer, to be a pagan. This company is the only one which can boast of any great Christian membership or of a lodge composed entirely of nominal Christians. This lodge is the Pleasant Valley Lodge of the Little Water Company on the Cattaraugus reservation. Mrs Harriet Maxwell Converse joined this lodge in 1892,[1] afterward joining the pagan lodge at Newtown.

A careful study of the Iroquois societies will lead to the conclusion that most of the societies are of ancient origin and that their rituals have been transmitted with little change for many years. Indeed, that under the circumstances any changes should have been made would be stranger than that none had occurred at all. Most of the rituals are chanted in unison by the entire company of members, and any change in note, syllable, or word would immediately be detected. Rites transmitted by song are more difficult to change than simple recitals where musical rhythm is not correlated with the word. Some of the rituals, moreover, contain archaic words and expressions, and even entire sentences are not understood by the singers.

Each society has a legend by which its origin and peculiar rites are explained. Most of these legends portray the founder of the society as a lost hunter, an outcast orphan, or a venturesome youth curious to know what was farther on. The founder got into strange complications, saw strange or familiar animals engaged in their rites, was discovered, forgiven, adopted, kept a captive, and finally, after long study and many warnings, was sent back to his people to teach them the secrets of the animals and how their favor could be obtained. The secrets were to be preserved by the society which the hero was to found. There are some variations of this abstract, but it covers the general features of most of the legends.

[1] Myths and Legends of the Iroquois, *N. Y. State Museum Bulletin 125*, p. 176.

The study of the societies was commenced by the writer in 1902, and during the years 1905–1906 an almost uninterrupted study was made for the New York State Education Department, and the results deposited in the State Library. Since that time the research has been continued for the New York State Museum. Paraphernalia have been collected, phonograph records have been made of many of the songs and ceremonial speeches, texts have been recorded and translated, legends have been gathered, and some music has already been transcribed. There still remains an enormous amount of work to be done, and it is greatly to be regretted that a multiplicity of duties bars the way for as speedy progress in this work as might be desirable, especially since many of the informants are old people and in ill health.

A brief outline of the various societies is presented in this paper. It is impossible for the sake of brevity to present a fair compend or even a systematic outline. The main features of the less-known organizations and some neglected facts of the few that are better known are mentioned, it being hoped that even such statements may be useful to students of ethnology. The list follows:[1]

### *Niganĕga''a' oă'no'*, or *Ne''Hono''tcino''gă*, The Little Water Company

This society is perhaps the best organized of all the Seneca folk-societies. It holds four meetings each year, but only on three occasions is the night song, *Ganoda*, chanted. To describe adequately the rites of this society would require a small volume. For the purposes of this paper, since the society has been described at greater length elsewhere, only a few notes can be given.

The company is organized to perform the rites thought necessary to preserve the potency of the "secret medicine," *niganĕga''a'*, known as the "little-water powder." The meetings, moreover, are social gatherings of the members in which they can renew friendship and smoke away mutual wrongs if any have been committed. It is contrary to the rules to admit members having a quarrel unless they are willing to forgive and forget. Both men and women are

[1] A description of some of these societies was prepared for incorporation in the Fifth Annual Report of the Director of the State Museum, Albany, 1909.

members. Its officers, in order of their importance, are: the song-holder, the chief matron, the watcher of the medicine, feast-makers, invoker, flute-holder, and announcers and sentinels. There are two altars, the Altar of the Fire and the Altar of the Mystery. The ritual consists of three sets of songs describing the various adventures of the founder, known as the Good Hunter. At the close of each section the feast-makers pass bowls of berry-juice, giving each singer a draft from a ladle. In some lodges a pipe is passed. An intermission then follows, during which the members, men and women alike, smoke the native home-grown tobacco. The singing is accompanied by the shaking of gourd rattles, and each member shakes one while he sings. Only purified members are supposed to enter. Unclean men or women, even though members, are debarred. The society has no public ceremony and no dances. Only members are supposed to know the precise time and place of meeting. The songs must never be sung outside of the lodge-room, but special meetings are sometimes called for the purpose of instructing novices. The office of song-holder by the Cattaraugus Seneca is hereditary to the name *O'dän'kot*, Sunshine. The present song holder of the *Ganun'dasē* lodge, the pagan lodge at Newtown, Cattaraugus reservation, is a youth who is learning the song, George Pierce, the former *O'dän'kot*, having recently died. Visitors may listen to the songs in an outer room, but are debarred from viewing the "mysteries." Each member, on entering, deposits his medicine-packet on the Altar of the Mystery and places his contribution of tobacco in the corn-husk basket. The tobacco is thrown by the invoker into the fire as he chants his prayer to the Creator, the

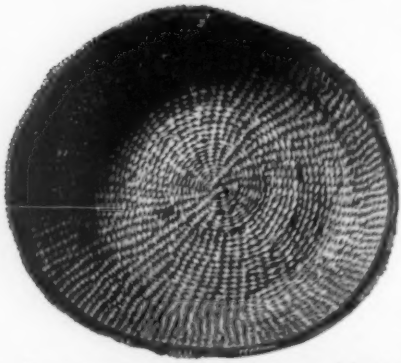


FIG. 22. — Incense tobacco basket used by the Little Water Society.

Thunder Spirit, and to the Great Darkness. The flute-song is played during the second and third sections. At the close of the ceremony a pig's head is passed, and pieces of the boiled meat are torn from the head with the teeth, the members cawing in imitation of crows. In early times a bear's head was eaten. The food is then distributed, and the meeting or "sitting" is concluded. The ceremony commences at about 11 o'clock P. M. and is adjourned at daybreak. The sun "must not see the rites." The business of the society is all conducted before the ceremony commences: the reports of the officers are given and the treasurer's report read. The paraphernalia of this society consist of the medicine-bundles, the flute, gourd rattles for each singer, the sacred tobacco-basket (fig. 22), and a bark dipper. The necessary furnishings are a table and a fire-place, these being the "altars," and a lamp. The arrangement of a lodge is shown in figure 23. The "medicine" is not used in the ceremonies; it is simply "sung for." Its power is conserved for use by the medicine people in healing ceremonies. The singing of the ritual is conducted in total darkness, the lights being brought in only during the intermissions.

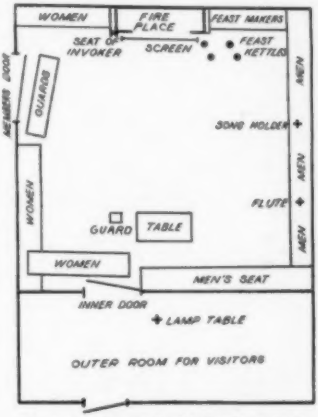



FIG. 23.—Plan of the Little Water Lodge room.

*Dewanondiisso"daik'ta'*, PYGMY SOCIETY, THE DARK DANCE CEREMONY

The ritual of this society consists of 102 songs, divided into four sections, as follows: The first section, 15 songs; the second, 23 songs; the third, 30 songs, and the fourth, 34 songs. The order of the ceremony is somewhat like that of the Medicine Company. All the songs are sung in darkness. It is believed that the spirit members of the society come and join in the singing, and their voices are thought to be audible at times.

The water drum and the horn rattle are used in this ceremony for keeping time. There is a brief dance. The Dark Ceremony is designed to appease certain spirits and to procure the good offices of others. Meetings are called at any time for the purpose of appeasing the spirits of certain charms that have become impotent or which may become so, or are called by members and even by non-members who are troubled by certain signs and sounds, such as the drumming of the water fairies or stone throwers, pygmies, who by their signs signify their desire for a ceremony. Non-members become members by asking for the services of the society. The

FIG. 24. — Dark Dance Ceremony of the Pygmy Society, or Band of Charm Holders. (Drawn by Jesse Cornplanter.)

rites are preëminently the religion of the "little folk" whose goodwill is sought by all Indians living under the influence of the *Ongwe'oñwe'ka'*, Indian belief. The Pygmies are thought to be "next to the people" in importance, and to be very powerful beings. They demand proper attention or they will inflict punishment upon those who neglect them. This society, however, "sings for" all the "medicine charms" and all the magic animals. These magic animals are members of the society, and in order of their importance are: *Jo"gä'o"*, Elves or Pygmies; *Jodi''gwado"'*, the Great Horned Serpent; *Sho"dowĕk'owa*, the Blue Panther, the herald of

death; *Dewūtiowa'is*, the Exploding Wren. Other members, equal in rank, are: *Diatdagwūt'*, White Beaver; *O'nowaot'gont*, or *Ganē'onttwūt*, the Corn-bug; *Otna'yont*, Sharp-legs; *O'nai''ta*, Little Dry Hand; *Dagwūn'noyaēnt*, Wind Spirit, and *Nia''gwahē*, Great Naked Bear.

These charm-members are called *Ho'tcine'gada*. The charms or parts of these members, which the human members keep and sing for, are: none of the first two, because they are very sacred and "use their minds" only for charms; panther's claw; feathers; white beaver's castor; corn-bug dried; bone of sharp-legs; dry hand; hair of the wind, and bones of *Nia''gwahē*. Some of these charms bring evil to the owners, but must not be destroyed under any circumstance. Their evil influence can be warded off only by the ceremonies. The owner or his family appoints someone to "hold the charm" after the first owner's death. Other charms are only for benevolent purposes, but become angry if neglected. Of the evil charms, the sharp bone may be mentioned; and of the good charms the exploding bird's feathers. Most of them are regarded, however, as *ot'gont*. The members of this society save their fingernail parings and throw them over cliffs for the Pygmies.

The ceremonies of the societies are always opened with a speech by the invoker. The following speech is that of the Pygmy Society, and in a general way is the pattern of nearly all opening invocations.

*Yotdondak'o'*, Opening Ceremony of the Pygmy Society

We now commence to thank our Creator.

Now we are thankful that we who have assembled here are well.

We are thankful to the Creator for the world and all that is upon it for our benefit.

We thank the Sun and the Moon.

We thank the Creator that so far tonight we are all well.

Now I announce that A B is to be treated.

Now this one, C D, will throw tobacco in the fire.

Now these will lead the singing, E and F.

So I have said.

The "tobacco thrower" advances to the fire, and, seating himself, takes a basket of Indian tobacco and speaks as follows:

Now the smoke rises !
Receive you this incense !
You who run in the darkness.
You know that this one has thought of you
And throws this tobacco for you.
Now you are able to cause sickness.
Now, when first you knew that men-beings were on earth, you said,
"They are our grandchildren."
You promised to be one of the forces for men-beings' help,
For thereby you would receive offerings of tobacco.
So now you get tobacco — you, the Pygmies. [*Sprinkles tobacco on the fire.*]
Now is the time when you have come ;
You and the member have assembled here tonight.
Now again you receive tobacco—you, the Pygmies. [*Throws tobacco.*]
You are the wanderers of the mountains ;
You have promised to hear us whenever the drum sounds,
Even as far away as a seven days' journey.
Now all of you receive tobacco. [*Throws tobacco.*]
You well know the members of this society,
So let this[1] cease.
You are the cause of a person, a member, becoming ill.
Henceforth give good fortune for she (or he) has fulfilled her duty and given you tobacco.
You love tobacco and we remember it ;
So also you should remember us.
Now the drum receives tobacco,
And the rattle also.
It is our belief that we have said all,
So now we hope that you will help us.
Now these are the words spoken before you all,
You who are gathered here tonight.
So now it is done.

### *Dawando'*, The Society of Otters

This is a band of women organized to propitiate the otters and other water-animals who are supposed to exercise an influence over the health, fortunes, and destinies of men. The otter, which is the

[1] The malific influence causing sickness.

chief of the small water-animals, including the fish, is a powerful medicine-animal, and besides having his own special society is a member of the *Yē'dos*, or *I''dos*, and the *Hono''tcino''gä'*.

The Otters may appear at any public thanksgiving, as the Green Corn Dance and the Midwinter Ceremony. After a tobacco-throwing ceremony, *hayänt'wūtgūs*, the three women officers of the *Dawan'do'* each dip a bucket of the medicine-water from the spring or stream, dipping down with the current, and carry it to the council-house where they sprinkle everyone they meet by dipping long wisps of corn-husk in the water and shaking them at the people. If the women succeed in entering the council-house and sprinkling everyone without hindrance, they go for more water and continue until stopped. The only way in which they may be forced to discontinue their sprinkling is for someone, just before she sprinkles him, to snatch the pail and throw the entire contents over her head. The Otter woman will then say, *Hat'gaü, niawē'!*—meaning, "Enough, I thank you!" She will then retire.

The Otters are especially active during the Midwinter Ceremony, and when the water is thrown over their heads it very often freezes, but this is something only to be enjoyed. When possessed with the spirit of the otter, the women are said to be unaware of their actions, and sometimes, when they are particularly zealous, the whistle of the otter is heard. This greatly frightens the people, who regard it as a manifestation of the presence of the "great medicine otter." The women afterward deny having imitated the otter's call, saying that they were possessed of the otter and had no knowledge of what they did.

The Otter Society has no songs and no dances. Its members are organized simply to give thanks to the water-animals and to retain their favor. When one is ungrateful to the water-animals, as a wasteful fisherman, or a hunter who kills muskrats or beaver without asking permission or offering tobacco to their spirits, he becomes strangely ill, so it is believed. The Otters then go to a spring and conduct a ceremony, after which they enter the sick man's lodge and sprinkle him with spring water, hoping thereby to cure him.

*I''dos oä'no'*, SOCIETY OF MYSTIC ANIMALS

The *I''dos* Company is a band of "medicine" people whose object is to preserve and perform the rites thought necessary to keep the continued good-will of the "medicine" animals. According to the traditions of the company, these animals in ancient times entered into a league with them. The animals taught them the ceremonies necessary to please them, and said that, should these be faithfully performed, they would continue to be of service to mankind. They would cure disease, banish pain, displace the causes of disasters in nature, and overcome ill luck.

Every member of the company has an individual song to sing in the ceremonies, and thus the length of the ceremony depends on the number of the members. When a person enters the *I''dos* he is given a gourd rattle and a song. These he must keep with care, not forgetting the song or losing the rattle.

The head singers of the *I''dos* are two men who chant the dance song. This chant relates the marvels that the medicine-man is able to perform, and as they sing he proceeds to do as the song directs. He lifts a red-hot stone from the lodge fire and tosses it like a ball in his naked hands; he demonstrates that he can see through a carved wooden mask having no eye-holes, by finding various things about the lodge; he causes a doll to appear as a living being, and mystifies the company in other ways. It is related that new members sometimes doubt the power of the mystery-man and laugh outright at some of the claims of which he boasts. In such a case he approaches the doll, and though his face be covered by a wooden mask, cuts the string that fastens its skirt. The skirt drops, exposing the legs of the doll. Then the doubting woman laughs, for everyone else is laughing, at the doll she supposes, but shortly she notices that everyone is looking at her, and to her utmost chagrin discovers that her own skirt-string has been cut and that she is covered only by her undergarments. Immediately she stops laughing and never afterward doubts the powers of the medicine-man, who, when he cut the doll's skirt-string by his magic power, cuts her's also.

The *I''dos* is said to have been introduced among the Seneca by the Hurons. The ritual, however, is in Seneca, though some of

the words are not understood. The principal ceremonies are: (*a*) *Gaiˀyowᵉⁿˀogowa*, The sharp point; (*b*) *Gahadiˀyagoⁿ*, At the wood's edge; (*c*) *Gaiˀˀdoⁿ*, The great *Gaiˀˀdoⁿ*. Other ceremonies are *Oˀtoˀdoⁿgwaˀˀ*, It is blazing, and *Tciˀgwawa*, The other way around. During ceremonies *b* and *c* only individual members sing. The chief of the society is said to be a man who is able to see through a wooden mask which has no eye-openings. By his magic power he is able to discover hidden things previously concealed by

FIG. 25.— Masks used by the *Iˀˀdos* Company. 1, Dual-spirit's mask. 2, Witch's mask. 3, Conjurer's mask.

the members, probably by some particular member. He discovers the ceremonial, no matter where hidden, and juggles with a hot stone drawn from the fire. When the ceremonies are finished the members feast on a pig's head. In early times a deer's head was used. As do the members of the Medicine Lodge upon such an occasion, the members tear the meat from the head with their teeth. The ceremonies of the society are now considered an efficacious

treatment for fevers and skin diseases. The rites are supposed to be strictly secret.

The writer has transcribed the entire text of the *I''dos* ritual in Seneca and has translated it. Three masks are used in the rites — the Conjurer's mask, the Witch mask, and the Dual-spirit's mask. These masks are never used in the rites of the False-face Company, and differ from them in that they have no metal eyes (see fig. 25). A flash-light picture of a corner of the *I''dos* lodge was made by the writer in January, 1909, but the session of the lodge was not one of the "regular" ones. This picture is shown in figure 26.

FIG. 26. — *I''dos oä'no'* (Society of Mystic Animals) in session.

### *Sha'dotgé'a*, THE EAGLE SOCIETY

The ritual of the Eagle Society consists of ten songs and a dance. The song is called *Ganë'gwaë oä'no'*. Every member participating in the ceremony paints on each cheek a round red spot. No one but members may engage in its ceremonies, even though these be performed publicly. The Eagle Society's ceremony is re-

garded as most sacred, in this respect next to the Great Feather Dance, *O'stowä'gowa*. It is believed that the society holds in its songs the most potent charms known. It is said that the dying, especially those afflicted with wasting diseases, and old people, have been completely restored by its ceremonies. This is because the Dew Eagle, to which the society is dedicated, is the reviver of wilting things.[1] The membership is divided into two classes by phratry-

FIG. 27. — The Lodge Dance of the Eagles. (From a drawing by Jesse Cornplanter.)

ship. A person may become a member by dreaming such a thing necessary, or by receiving the rites of the society in case of illness. Special costumes are worn in the ceremonies. In the dance the members divide and stand opposite each other according to phratry, the animals opposite the birds. Two dancers from each phratry are chosen, and one singer from each. The dancers assume a squatting posture and imitate the motions of birds (fig. 27). The physical exertion is intense and requires constant interruption. The dancers and singers

[1] The Dew Eagle refreshed the scalp of the Good Hunter by plucking a feather from his breast and sprinkling the scalp with dew from the lake in the hollow of its back.

continue to dance and sing until completely exhausted, unless someone strikes the signal pole and makes a speech. The dancers then retire to their benches until the speech ends, when the singers take up their song and the dance is continued. After his speech, the speaker, who may be any member, presents the dancers for whom he speaks with a gift of money, tobacco, or bread; but the old custom was to give only such things as birds liked for food. The speeches are usually in praise of one's own clan and in derision of the opposite phratry. At the close, the speakers all apologize for their clannish zeal, and say, as if everyone did not know it, that their jibes were intended only as jests. The dancers each hold in their left hands a calumet fan, made by suspending six heron or four eagle feathers parallel and horizontally from a rod or reed. In their right hands they hold small gourd rattles with wooden handles, or small bark rattles made of a folded strip of hickory bark patterned after the larger False-face bark rattles. The signal pole and the striking stick are spirally striped with red paint. After the ceremony, when held in a private lodge, the members feast on a pig's head; but this is a modern substitute for a bear's or a deer's head, though crows' heads once were eaten also.

### *Nia'gwai'' oă''no'*, The Bear Society

The ritual of the Bear Society consists of twenty songs and a dance. During the intermissions in the dance, that is, between songs, the participants eat berries from a pan on the dance-bench, or, in winter, eat honey, taking portions of the comb and eating it as they walk about the bench. The ceremony is opened by making a tobacco-offering to the spirits of the bears, during which the chief Bear-man makes an invocation. The high officer of the society, however, is a woman. The symbol of membership is a black streak drawn diagonally across the right cheek. The object of the society is to cure the diseases of its members and candidates by chanting and dancing. The ceremony is believed to be a remedy for fevers and rheumatism, as well as to bring good fortune. In a healing ceremony the chief woman blows on the head of the patient. After a ceremony the members carry home with them pails of bear-

pudding, a sweetened corn pudding mixed with sunflower oil. The Bears use the water-drum and horn rattles. All Seneca dances are counter-clockwise.

FIG. 28. — Horn rattles once used by the Tonawanda-Seneca Bear Society.

### *Degi'ya'gon oä''no'*, THE BUFFALO SOCIETY

The ritual of this society consists of a number of songs which relate the story of the origin of the order. After a ceremony in which there is a dance, the members depart, carrying with them the buffalo-pudding. The dancers imitate the action of buffalo when stamping off flies, and the pudding is supposed to be of the consistency of the mud in which the buffalo stamp. When it is eaten it acts as a charm that "stamps off" disease or ill-fortune. The Buffalos use the water-drum and horn rattles.

*O'gi'wē oā'no'*, CHANTERS FOR THE DEAD

The *O'gi'wē* Ceremony is called for by any member who dreams of the restless spirit of some former member, relative, or friend. At the Ceremony the set of songs is sung, the large water-drum beaten, and a feast indulged in. The food is supposed to satisfy the hungry

FIG. 29. — Council-house Dance of the Buffalo Society. (Drawn by Jesse Cornplanter.)

ghosts that for some reason are "earth-bound," as spiritists might express it. The *O'gi'wē* Ceremony must not be confused with the Death Feast Ceremony, which is a clan affair. The diviner of the *O'gi'wē* people is able to identify the unknown spirit which may be troubling the dreams of a member. The sickness and ill-fortune caused by evil ghosts may be dispelled by the ceremony. The chief officer is a woman.

*Deswadenyationdottū'*, THE WOMAN'S SOCIETY

This society preserves the ritual by which good fortune and health are obtained for women. The singers, fourteen in number at Cattaraugus, are all men. During their singing the women dance. The office of chief singer is hereditary. The women join in a chorus as the men sing. Horn rattles and water-drums are used.

### *Towii'sas*, Sisters of the *Dio'hĕ'ko*

This society is composed of a body of women whose special duty is to offer thanks to the spirits of the corn, the beans, and the squashes, *Dio'hĕ'ko* (these sustain our lives). By their ceremonies of thanksgiving the *Towii'sas* propitiate the spirits of growth, and people are assured of a good harvest. The *Towii'sas* have a ceremonial song and a march, but no dances. The legend of the society relates that the entire band of *Towii'sas*, in the latter part of the seventeenth century, was captured by the Cherokee and carried down the Ohio river. Thereafter two men were admitted as escorts in their march through the woods. At the closing of the ceremony the head-woman chants the *Dio'hĕ'ko* song as she leads her band about a kettle of corn pudding. She carries an armful of corn on the cob; in her right hand she holds some loose beans, and in her left some squash seeds, the emblems of fertility. The *Towii'sas* hold one ceremony each year, unless some calamity threatens the harvest. The rattle of this society is made of a land tortoise (box-turtle) shell. These are often found in graves, but their exact use in the Iroquois territory has not generally been known to archeologists.

Fig. 30. — Tortoise-shell rattle from Seneca grave. Such rattles were used by the *Towii'sas* Company.

### *Jadigo"'sa sho"o'*, The False-face Company

This organization is one of the better-known societies of the Iroquois, and its rites have often been described, though not always correctly interpreted. There are three divisions of the False-faces, and four classes of masks — doorkeeper or doctor masks, dancing masks, beggar masks, and secret masks. The beggar and thief's masks form no part of the paraphernalia of the true society, and the secret masks are never used in public ceremonies in the council-house at the midwinter ceremony. The False-face ceremonies have

been well described, though by no means exhaustively, by Morgan[1] and Boyle.[2] The main features are generally known.

The paraphernalia of this society consist of the masks previously mentioned, turtle-shell rattles (snapping-turtles only), hickory-bark rattles, head throws, a leader's pole upon which is fastened a small husk face, a small wooden false-face, and a small turtle rattle, and a tobacco basket. Masks are shown in the accompanying illustrations.

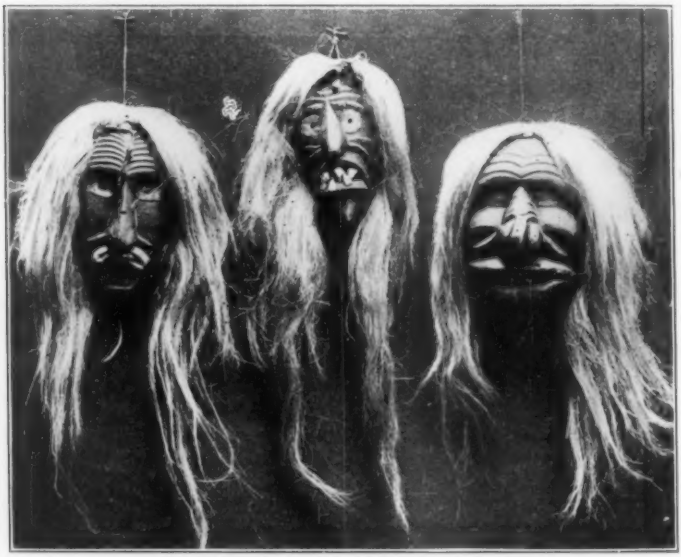
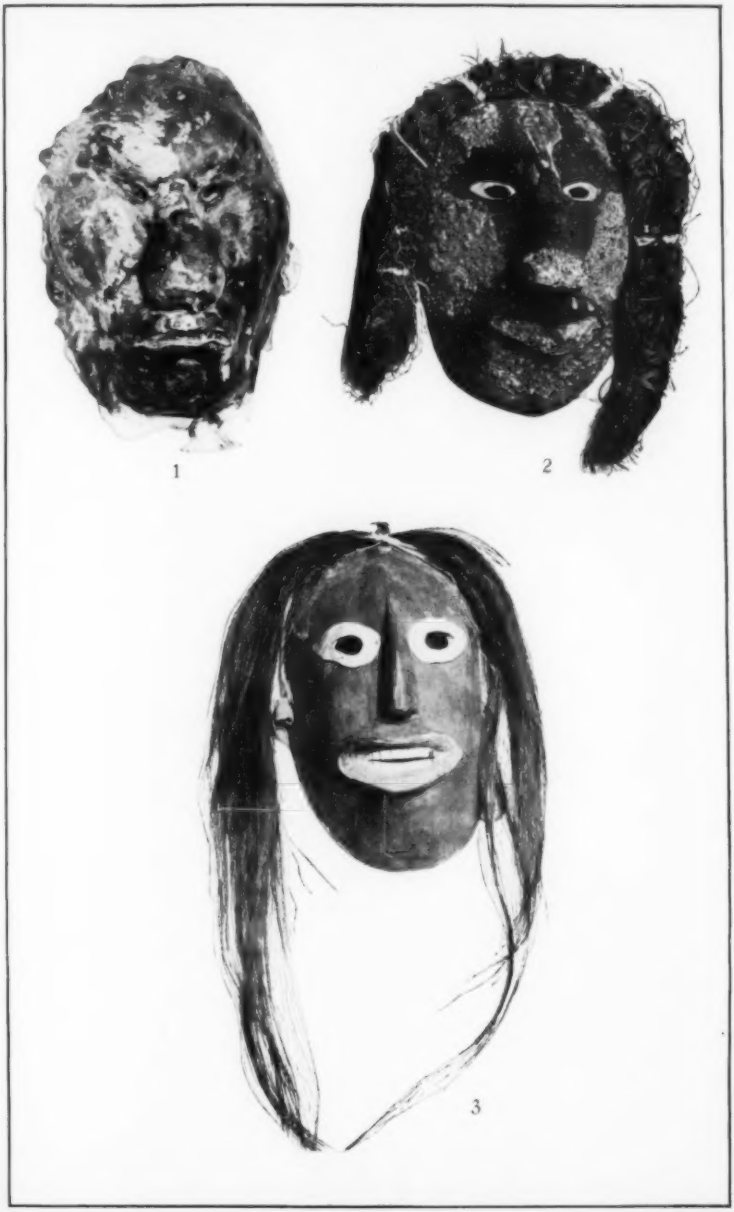


FIG. 31. — Typical False-face Company masks, from the collection of Mr Joseph Keppler, New York City.

There are two Seneca legends setting forth the origin of the False-faces, and three with the Mohawk story. These stories, however, explain the origin of different classes of masks. Each mask has a name. One story relates that the False-faces originated with the Stone Giants. However this may be, the writer obtained in 1905,

[1] Morgan, Fifth Annual Report N. Y. State Cabinet (Museum), 1852, p. 98.
[2] Boyle, Archæological Report, Provincial Museum, Toronto, 1898, p. 157.




MASKS OF THE SECRET FALSE-FACE COMPANY

1. The Traitor Mask. 2. The Stone Giant Mask. 3. Beggar Mask (this is not used in any Lodge ceremony).

from a woman claiming to be the keeper of the secret masks, a mask representing the Stone Giant's face. With it was a mask made of wood, over which was stretched a rabbit-skin stained with blood. This mask was supposed to represent the face of a traitor as he would look when drowned for his infamy. Chief Delos Kettle said it was used to cure venereal diseases. These masks[1] are shown in plate VIII. They are not typical masks by any means.

There is some dispute as to the antiquity of the False-face Company. Dr Beauchamp, in his History of the Iroquois,[2] says it is comparatively recent. From a study of the Seneca society, however, the writer is inclined to believe that it is quite old with them, although it may be more recent with the other Iroquois. Early explorers certainly could not have seen everything of Iroquois cul-

FIG. 32. — Blowing mask pipe from Erie county, New York. Collected for the Peabody Museum, Cambridge, by Harrington and Parker in 1903. A similar pipe is in the State Museum at Albany.

ture, especially some of the secret things, and their lack of description may be regarded as negative testimony rather than as positive evidence of the non-existence of certain features which later students have found. It is quite possible that the author of "Van Curler's"

[1] The pictures of these masks were first reproduced in the Second Annual Report of the Director of the New York State Museum, 1906.

[2] Bulletin 78, New York State Museum, p. 141.

Journal of 1634–'35 mentions a false-face when he writes: "This chief showed me his idol; it was a head with the teeth sticking out; it was dressed in red cloth. Others have a snake, a turtle, a swan, a crane, a pigeon for their idols. . . ." The Seneca at present drape their false-faces when they hang them up for safe keeping, and use them as well as turtle and snake charms as bringers of good fortune. Some pipes from seventeenth-century graves seem to represent blowing masks. Mr M. R. Harrington and the writer found one in 1903 while excavating a seventeenth-century site, since learned to be of Seneca occupancy, on Cattaraugus creek, near Irving (fig. 32). The counterpart of this pipe was found by R. M. Peck on the Warren site, near West Bloomfield, N. Y. The Indians say it is a False-face blowing ashes, and such it may represent. Mr Harrington, and the writer as well, have found what may be false-face eye-disks, as well as turtle-shell rattles, in Seneca and Erie graves.

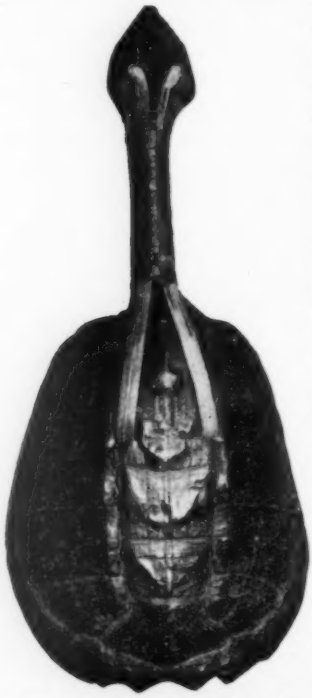


FIG. 33. — Turtle-shell rattle of the False-face Company.

The principal False-face ceremonies are: *Ganoi'ᵘiowi*, Marching Song; *Hodigosshos'ga*, Doctors' Dance, and *Yeᵃⁿsᵉⁿdādi'yas*, Doorkeepers' Dance.

*Gaji'ᵘsă shoᵃⁿo'*, THE HUSK-FACES

This society seems rather loosely organized among the Seneca, but its chief members act as water doctors. They endeavor to cure certain diseases by spraying and sprinkling water on the patients. Two Husk-faces are admitted with the False-faces in their midwin-

THE GREAT WIND MASK, A MEDICINE OR DOCTOR MASK OF THE FALSE-FACE COMPANY

ter long-house ceremony, and act as door-openers. As a company they also have a ceremony in which the Grandfather's Dance is featured. The grandfather is attired in rags, and, holding a cane stationary, dances in a circle about it, using the cane as a pivot. The company dance is one in which all the members participate. Non-members may partake of the medicine influence of the ceremony by joining in the dance at the end of the line when the ceremony is performed in the council-house at the mid-winter festival.

FIG. 34. — False-face Doctor rubbing his rattle on a pine stump. The mask is a typical "Doctor face." (Drawn from a photograph.)

That the foregoing so-called societies are in fact organizations, and that their rites are not merely open ceremonies in which anyone may engage, is apparent from the following considerations:

1. The organizations have permanent officers for the various parts of their rites.

2. They have executive officers.

3. They have certain objects and stand for specific purposes.

4. They have stable and unchangeable rituals.

5. Those who have not undergone some form of an initiatory rite are not allowed to enter into their ceremonies.

6. They have legends by which the origin and objects of the rites are explained.

7. It is not permissible to recite the rituals or to chant any of the songs outside of the lodge to anyone who has not been inducted into the society.

Some of the societies have other features, such as stated meetings and officers' reports, but the foregoing characteristics apply to all the Seneca secret or semi-secret ceremonies, and entitle them to the name of *societies*.

When an Indian is afflicted with some disorder which cannot be identified by the native herb doctors, the relatives of the patient consult a clairvoyant, who names the ceremony, one of those above described, believed to be efficacious in treating the ailment. Some-

FIG. 35.— Two varieties of husk masks. The larger mask is said to be the older type; the smaller is used by the Seneca at Allegany. (New York State Museum collection.)

times several ceremonies are necessary, and as a final resort a witch-doctor is called upon.

As to the influence of these organizations on the people, while it must be confessed that they foster some "superstitions" inconsistent with the modern folk-ways of civilized society, they serve more than any other means to conserve the national life of the people. The strongest body of Iroquois in New York today are the

two bands or divisions of the Seneca, and the Seneca have the largest number of "pagans." They are perhaps likewise the most patriotic, and struggle with greater energy to retain their tribal organization and national identity.

The customs of these adherents of the old Iroquois religion react on and influence the entire body of the people, "pagans" and Christians alike.

NEW YORK STATE MUSEUM,
ALBANY

# ABORIGINAL REMAINS IN THE MIDDLE CHATTAHOOCHEE VALLEY OF ALABAMA AND GEORGIA[1]

By P. A. BRANNON

IN Lee and Russell counties, Alabama, and in Harris, Muscogee, and Chattahoochee counties, Georgia, are to be found many sites of aboriginal occupancy. The sites in the several counties named that have been investigated by the writer since he commenced to make occasional trips thereto in 1905 are the following: The mound and cemetery at the mouth of Wacoochee (Soap) creek, and the village site two miles below, in Lee county; the mound and cemetery at Abercrombie's Landing, in Russell county; the mound and cemetery at Kyle's Bend, and the flint quarry two miles above Columbus, Georgia, in Muscogee county; the two mounds and probable village site on the Woolfolk plantation, in Chattahoochee county; and the village sites in Harris county (see map).

The mounds, with the exception of the one at the Kyle site, are domiciliary. The Kyle site is a burial mound surrounded by a cemetery of later burials.

This locality was the home of the Lower Creek Indians, and several of their larger settlements, including their last chief town, were situated at or near several of the sites to be described. Some of the burials (with the notable exception of those of the Wacoochee mound), as shown by the accompanying glass beads and brass rings, indicate that the occupants came in contact with early European visitors.

Judging by the objects taken from the several sites, examined by the writer, it is believed that, although the territory covered is confined within a radius of thirty miles, the aboriginal occupants were of different tribes, and did not have a common locality for obtain-

[1] Presented at a meeting of the Alabama Anthropological Society, held in Montgomery, August 5, 1909.

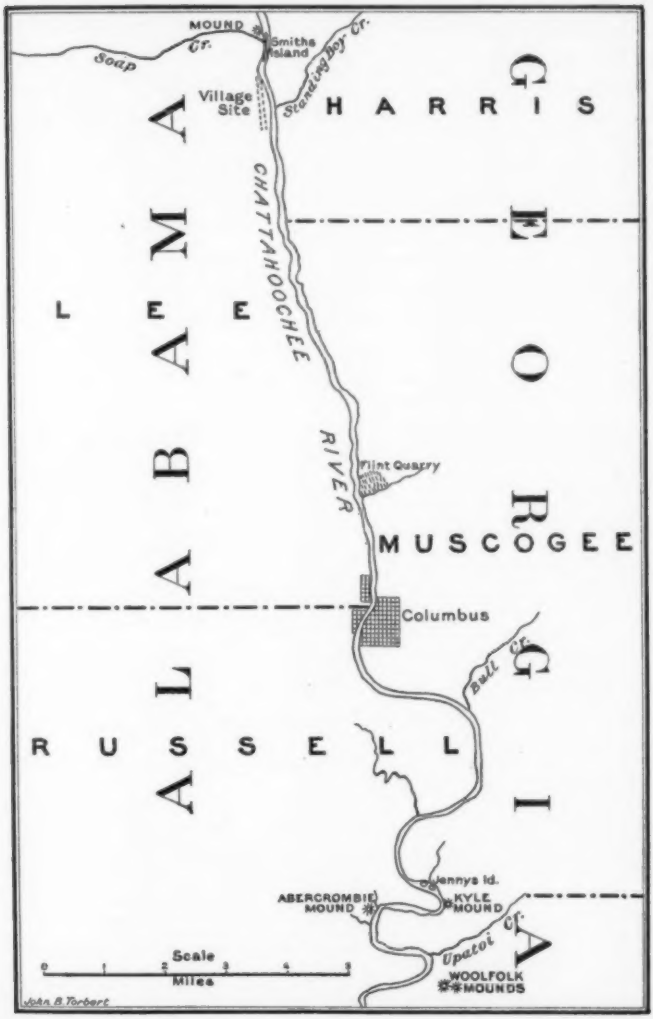



FIG. 36. — Map of a part of Chattahoochee river, showing location of mounds.

ing the materials of which their implements and ornaments are made; indeed, to one familiar with the archeology of this section, the objects from the various sites are clearly distinguishable one from another.

The source of the material from which the stone objects from the lower river sites were made has not yet been determined, but at the upper sites the inhabitants had only to go to the bed of the stream a few yards away.

### The Wacoochee or Soap Creek Site

About five hundred yards above the mouth of Wacoochee creek, and between that stream and Chattahoochee river, are the remains of a mound about 50 feet in diameter and 2 or 3 feet high. To the north and east, and nearer the river, is a cemetery. The mound

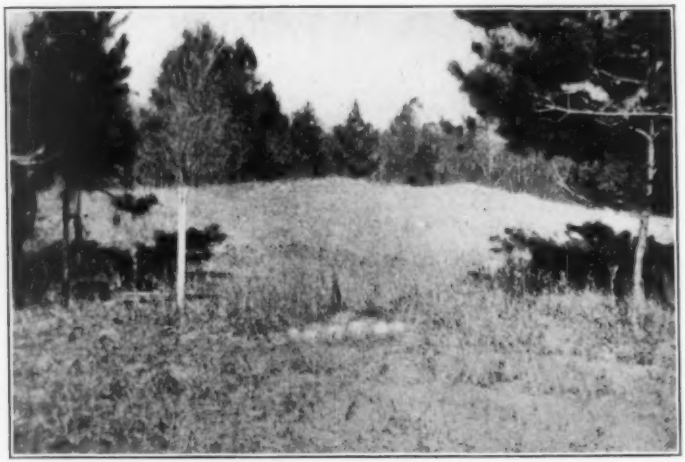


Fig. 37. — Wacoochee Creek mound, Lee county, Alabama.

was built largely of marl, some of the stones weighing two hundred pounds or more, similar to those in the shoals of the river about 75 yards away, from which these doubtless were dragged.

The mound proper is now practically destroyed, a party of

"hidden-treasure" hunters having opened it several years ago; and as the river during each freshet season overflows the cemetery, washing in great quantities of sand, it is now in some places two or three feet beneath the present surface.

No objects have been recovered from the mound itself, but from the bank of a large slough bordering the cemetery several fine earthenware pots and one large pipe have been taken.

Dr Lupton, of the Agricultural and Mechanical College of Alabama, visited this site about the year 1882 and obtained some objects, including a fine pipe.

While potsherds and other debris are met with here, no flint chips are seen. Numerous small stone-heaps have been found scattered over the cemetery where it is not too deeply covered with sand, and throughout the wooded tract north of the mound for a distance of 150 yards. The writer has opened numbers of these cairns, in some cases using a rod to the depth of two and a half to three feet, but nothing was found except stones that had been exposed to fire, some charcoal, and occasional fragments of charred bones which are probably not human. Some very large stone beads have been taken from the cemetery, but no shell objects have been seen.

On an island opposite the mouth of Soap creek, and on the river bank about two miles below, are evidences of former aboriginal occupancy, among the objects found being pots, mortars, and disks, mostly crude in form and execution, and many flint and quartz chips. The cemetery referred to was probably used by the inhabitants of the towns situated below.

### The Abercrombie Site

On the Fitzgerald plantation, at Abercrombie's Landing, in Russell county, Alabama, eight miles and a half below Columbus, Georgia, is a mound 75 feet in diameter and 15 feet high. It is 50 yards from the bank of the river and is surrounded by a cemetery. Situated as it is on a long bend of the river and commanding a fine view both up and down stream, it evidently served as an observation as well as a domiciliary site (fig. 38).

Evidences of aboriginal occupancy are more pronounced here than at any other point in the Chattahoochee valley; indeed, hav-

ing been under cultivation for a number of years, the cemetery is covered with debris. Mr Clarence B. Moore says that the debris from aboriginal occupancy was more thickly scattered here than at any other point he had ever visited.[1]

Much of this debris consists of beautiful shell-tempered pottery fragments. Either the site was occupied for a long period or great numbers of vessels were buried here, though with the exception of

FIG. 38. — Fitzgerald mound, Abercrombie Landing, Russell county, Alabama, 1905.

three small gray shell-tempered pots (fig. 39) and a large black one in the writer's collection, no whole vessels have been unearthed.

Both flexed and extended burials are encountered, and as cultivation extends deeper and deeper with each succeeding year, numbers of objects are continually thrown out, such as stone and pottery disks, hammers, celts, paint-pots, and ornaments of both stone and shell; in fact, much attention seems to have been given by the inhabitants to ornamentation, as with nearly every burial uncovered

[1] Mounds of the Chattahoochee and Flint Rivers, *Jour. Acad. Nat. Sci. Phila.*, XIII, 449.

are found beads, gorgets, and other objects of adornment. The gorgets are chiefly of shell, and show no unusual characteristics, though one in the writer's collection (fig. 40) has three distinct

FIG. 39. — Pottery from the Fitzgerald mound, 1906.

pairs of broken-out suspension holes. In the collection also are a few small ornamented beads.

Although at a distance exceeding 300 miles from the coast,

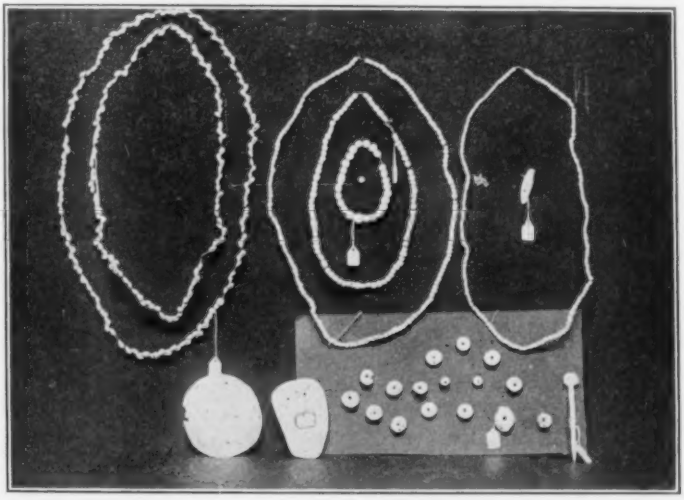


FIG. 40. — Beads, gorgets, etc., from the Fitzgerald mound, 1905-1906.

numbers of beads from the Abercrombie site consist of small pierced sea-shells (*Marginella apicena*[1]), as shown in figure 40.

[1] Clarence B. Moore, Mounds of Chattahoochee and Flint Rivers, p. 450.

The shell used in tempering the earthenware is that of the common river mussel.

Gorgets and beads of stone are occasionally met, and in the

FIG. 41. — Stone objects from the Fitzgerald mound, Russell county, Alabama, 1905–1908.

collection of the late George B. McKnight, of Columbus, Georgia, now owned by Dr H. M. Whelpley of St Louis, are some white

and black striped stone beads from here, some measuring nearly half an inch in diameter, and more than a hundred of them having been found with one burial.

Pierced triangular and oval gorgets have been found. One of the latter in the writer's collection shows nearly an inch of core (fig. 43, center), indicating that the boring had been done with a reed.

Numbers of paint-pots have been recovered from the Aber-

FIG. 42. — "Hoe-shaped implement," Fitzgerald mound, 1905.

crombie site. Many fine celts and chisels have been found also, but with the exception of the three grooved axes in the collection of the writer, no implements of this kind are known to have been found elsewhere in this locality. The fine specimen shown in figure 41, *f*, was unearthed here in 1906. While it is of the prevailing color and possesses the general characteristics of the stone objects from the Chattahoochee region, it is the only one of its kind thus far found.

In the spring of 1905 I took from a flexed burial in the Aber-

crombie cemetery a very fine "hoe-shaped implement" (fig. 42), along with five thousand shell, bone, stone, and glass beads. The glass beads, 75 or 100 in number, and blue, split in halves on exposure to the atmosphere. The hoe-shaped implement shows no evidence of usage, and is highly polished, as are most of the objects of this kind found at the Abercrombie and Kyle sites.

The collection of the writer contains several hundred finely made arrow and spear heads from this locality. In no part of the valley are found so many earthenware disks, many of which are perfectly formed from decorated potsherds.

One of the most interesting objects from the Abercrombie site is a "hammer-pipe" of white quartz, highly polished inside the bowl and around the base. The object is round, about four inches high, nicely grooved, and although perfectly hammer-shaped, it is

FIG. 43. — Stone objects from the Fitzgerald mound.

at the same time clearly a pipe. With this exception the site is lacking in stone pipes, and very few of pottery have been found.

Mr Clarence B. Moore believes the Abercrombie mound antedates the cemetery surrounding it,[1] and in this opinion I wholly concur.

At the flint quarry north of Columbus, about eighteen years ago Mr McKnight found a very fine "spade-shaped implement." It is about fourteen inches in length, is highly polished and black in color, with a round handle, and a flat wedge-shaped blade about two inches and a half wide at the handle end. The implement does not show evidence of use. Excepting this one, no such

[1] Mounds of the Chattahoochee and Flint Rivers, p. 450.

implements are found in this section, and the writer does not recall ever having seen another from any point visited in Alabama and central Georgia. Many unfinished objects of flint are still found here.

The locality of the two mounds on the Woolfolk plantation in Chattahoochee county, Georgia, has been under cultivation for a number of years, the mounds having been practically destroyed. Some debris still remains, and a number of stone celts and disks, some beads, and a pipe or two have been obtained here. This is very probably the site of old Cussetah.

Two very handsome discoidals of about equal size have been found in this section, one from Muscogee county, two miles and a half from the river, the other (fig. 44) from the northern part of Harris county. The former is of ferruginous quartz, and is not quite so fine as the one from Harris county.

### The Kyle Mound

On the old Woolfolk plantation in Muscogee county, Georgia, at Kyle's Bend, is the remnant of a mound back of which lies a cemetery. Situated as it was on the brink of a bluff, the river at high-water periods has eaten into the mound until only a vestige of the originally large tumulus remains. In 1888, when the river began to wash into it, the mound was about 25 feet high and more than 50 feet in diameter, with a flattened top. Now practically nothing remains.

This is one of the mounds of Georgia spoken of by Charles C. Jones[1] as observation and refuge points, but later developments have shown that it was also a burial mound, and indeed one of the richest in burials in the entire South. Situated on a sharp bend, it has been surrounded by the river at high-water periods for a number of years, and it was very probably used in later aboriginal times as a place of refuge.

Although most of the contents of this mound were washed into the river and carried away, a great many objects were procured by the late George B. McKnight, of Columbus, Georgia, and F. W. Miller, now of New Jersey. These gentlemen made a number of

[1] Antiquities of the Southern Indians, p. 152.

visits to the site, and their large collections consist mainly of these objects, hundreds of which the writer has studied. Many of the specimens exhibit characteristics distinct from those of other localities. The celts, axes, and other stone objects are nearly always black and highly polished, and are of superior workmanship. The

FIG. 44. — "Discoidal," Harris county, Georgia, about 1880. Diameter $5\frac{7}{16}$ inches. (In the collection of U. H. Layfield, Chipley, Ga.

earthenware varies in color and composition, and is only sparingly decorated.

The site was extremely rich in beads and other ornaments, in one instance 16,000 being found with a single burial. While the beads here, as at the Fitzgerald mound, are mostly of shell and bone, numbers of others of white and yellow quartz, and several

dozens of amethyst have been found. The McKnight collection contains an amethyst bead nearly an inch in diameter, with a hole through the center in which one can easily insert a little finger.

Numbers of hair-pins, tubes, and gorgets of shell, and many tablets and disks of stone have been obtained here.

Among the most interesting of the objects from this site are two disk-like objects of grayish brown, untempered, hard-burned earthenware with a slightly concave surface and without ornamentation of any kind. Mr Clarence B. Moore, in a letter to the writer, expresses the belief that such objects belong to the palette class.

By far the most interesting of the mound's contents are the pottery utensils. While most of the entire vessels that have been recovered are small, a dozen or more large ones have been unearthed. One of the latter deserves special mention. It is of brown clay, burned black and not ornamented. It is not provided with legs, and judging by the small round mouth it was probably designed for carrying water. These features are characteristic of the vessels from the Kyle site, and, unlike pottery from the Abercrombie site, the vessels have no effigy handles or spouts. Long-necked water-bottles are the most common pottery forms. The ware is nearly always black, and while numbers of vessels are polished, none is shell-tempered.

Three fine "hoe-shaped implements" have been procured here,[1] but none of them shows evidence of use.

Though a few pipes have been recovered, they are not of unusual form.

Surrounding the Kyle mound is a cemetery of recent burials, in which numbers of brass rings have been found.

## Conclusion

There seems to be no doubt that of the aboriginal sites herein mentioned the Kyle site was the last one occupied, and while contact between its inhabitants and early Europeans affected the potter's art disadvantageously, the art of implement-making does not

[1] Compare Clarence B. Moore, The So-called "Hoe-shaped" Implement, *American Anthropologist*, v, 498–502, July–September, 1903.

seem to have been similarly affected, although it is possible that these implements may antedate the pottery.

The art remains from the Kyle mound show workmanship superior to that observed in the other sites described.

The cemetery at none of the sites appears to be so old as the adjacent mound.

Hawkins[1] in 1790 reported a large conical mound near Cowetah. The Abercrombie mound is probably the one referred to, as its situation approximates the site of Upper Cowetah in Hawkins' time.

No early reference is made to a Creek town above the "falls of the Chattahoochee" that corresponds to the Wacoochee site, hence the latter was probably abandoned before the arrival of the first white settlers. The crudeness of the few objects found at Wacoochee is also suggestive of the antiquity of that site.

In all likelihood the Wacoochee mound was the first of the several sites to be occupied, and probably the mound at Abercrombie was constructed at about the same time; next apparently followed the occupancy of the Woolfolk mound and the use of the Abercrombie cemetery; then the erection of the Kyle mound, and, finally, the use of the cemetery near that site.

MONTGOMERY, ALABAMA

[1] Sketch of Creek Country, 58, 1843.

# A REMARKABLE CEREMONIAL VESSEL FROM CHOLULA, MEXICO

By CARL LUMHOLTZ

SOME years ago my attention was drawn to an unusual example of ancient Mexican pottery in possession of Mrs F. Edwin Elwell, wife of the well known sculptor of New York. She graciously placed the valuable jar at my disposal, and on my recommendation presented it to the American Museum of Natural History, New York, where it is to-day.

FIG. 45. — Ceremonial vessel from Cholula.

During a visit in 1891 to the so-called pyramid of Cholula, in the state of Puebla, Mexico, Mrs Elwell bought the vessel from a Mexican woman who carried it under her arm filled with trinkets which she was selling. Two years previously the nephew of the woman had dug the vase out of the pyramid and presented it to her. At first she was unwilling to part with it, as she needed it for use as a receptacle, but the offer of fifty cents in Mexican currency, which would enable the owner to buy several baskets equally good for her purpose, made Mrs Elwell the owner of this handsome object of antiquity.

FIG. 46. — Two upper bands of the decorative design.

The jar is probably the largest known of its kind, and undoubtedly the handsomest in decorative design. The rim, unfortunately, is broken. The height of the vase in its present condition is 10.1 inches (25.6 cm.), its greatest circumference 31.5 inches (80 cm.). Its color is bright Venetian red, with decoration in black; the outlines of the designs are incised. The vessel is thick and somewhat heavy, but it is very fine in texture; and the surface is highly polished. The six handles are a prominent feature.

Dr Eduard Seler, in *Gesammelte Abhandlungen zur Amerikanischen Sprach- und Altertumskunde* (II, 300), describes and illustrates two Cholula vases. Mr A. F. Bandelier, in his *Report of an Archæological Tour in Mexico in 1881*, gives an exhaustive description of Cholula and its vicinity. Here was the center of the Quetzalcohuatl cult. Cholula was a city governed by the priests. According to Sr D. Francisco del Paso y Troncoso the Cholultecos (Nahua) were a small nation constituted under the form of a theocratic republic independent of the Mexican empire and adjoining the nations of Huexotzinco and Tlaxcala. Its territorial extent was very limited.[1]

FIG. 47. — Lower band of the decorative design.

The decorative designs of the vase are significant, the main decoration consisting of a series of plumed serpents, representing Quetzalcohuatl. The lower band of the decoration recalls the Mitla grecques, and may signify serpents and cloud terraces. A series of alternating figures forms the upper decorative band. These are of two kinds, of which one appears like a highly conventionalized butterfly design, while the other, according to Prof. M. H. Saville, may represent a highly conventionalized chalchihuite, as this sacred green stone is always associated with Quetzalcohuatl. The typical Cholula pottery is pale yellow in tone, but the vessel in question resembles in color and incised decoration a class of pottery found in large quantities in certain localities in the valley of Mexico.

The decorative bells that may be observed around the upper part of the vase indicate its ritualistic character, and the handles may have been used either as a means for attaching a skin drum-head or for suspending ceremonial ornaments or objects of sacrifice.

NEW YORK CITY

[1] Catálago del los Objetos que presenta la Republica de México en la Exposición Histórico-Americana de Madrid, Madrid, 1892.

# A RECONNAISSANCE TRIP IN WESTERN TEXAS

By CHARLES PEABODY

THE counties of Texas west of the Pecos river all contain mountains: they are found in the southwestern parts of Reeves, Pecos, and Terrell counties, and widely distributed throughout El Paso, Jeff Davis, Presidio, and Brewster counties, the area being about thirty thousand square miles. From the point of view of science, business, or pleasure, the region is little known, and it is largely on that account that Mrs Peabody and myself selected it for a fortnight's camping trip. The route occupied from April 6 to April 23, 1909, and as traversed equals somewhat more than three hundred miles. The course was from Pecos south-southwest through Fort Davis, Marfa, Shafter, and Presidio to Ojinaga, Mexico, thence via Alamito creek back to Marfa, and east to Alpine (see the map, fig. 48). Of the seventeen nights, thirteen were spent in the wagon, two at the hotel in Fort Davis, one in like manner at Shafter, and one in a ruined rancheria near Alamito as a refuge from a dust-storm.

For the sake of other explorers the equipment may be described. On the suggestion of Dr Edgar L. Hewett, Director of American Archæology under the Archæological Institute of America, a Studebaker four-spring mountain wagon (type 141–N) was procured, and by his kind supervision certain alterations were effected, viz.: the dasher removed and the front seat moved forward to the end of the body, a "foot-board front" put on, the other seats removed, a mess-box attached under the back end of the body, dropping four inches below the axle, with a door hinged at the bottom to remain level when open. Resting on the supports of the cover a wire mattress was inserted, lying about four inches above the level of the side-boards.

On and in the wagon were stored and carried provisions, a somewhat scanty outfit of dishes and utensils, a camera, a steamer trunk, traveling-bags, blankets, quilts, a five-gallon keg of water, the

GUADALUPE MTS.
PACIFIC
Pecos
Toyah
EL PASO
REEVES
TEXAS
Brogado
PECOS
JEFF DAVIS
DAVIS MTS.
BARILLA MTS.
STAR MT.
CANYON
MAJOR PK.
MT. LIVERMORE
Fort Davis
MITRE PK.
TWIN MTS.
HARRISBURG
Alpine
Marfa
SAN ANTONIO
Rio Grande
Bogel
PRESIDIO
CATHEDRAL MT.
CHINATI MTS.
Alamito
BREWSTER
Shafter
Alamito
Ojinaga
Presidio
Terlingua
A Portion of
WESTERN TEXAS
Showing
Line of Route.....
Scale
Miles
Norte
DEL
DOFECILLOS MTS.

FIG. 48.

FIG. 49. — View near Shafter, Texas.

driver's kit, and feed up to a hundred and fifty pounds for the stock. There was also room for one or more of the party to lie down. Two mules for pulling were generally sufficient, with one horse for riding purposes; these were furnished by Wellington Glaze of Pecos, who drove throughout the journey, attended to the animals, laid the fires, and made himself entirely useful. The cooking was done by Mrs Peabody.

In the sandy roads of the Alamito arroyo two extra mules were found necessary; as a rule a single pair is sufficient. A lighter wagon (i. e. less than one thousand and fifty pounds) would have been better, and as ours was "narrow tread" (four feet six inches), pulling was vastly harder and riding more uncomfortable. The tread standard to a region should be ascertained before laying down a wagon.

It is perhaps well to emphasize these points, for this method of camping is altogether the best for a region like western Texas.

Owing to the aridity, a large minimum of supplies, water, and fodder must be carried, hence the camping paraphernalia should be reduced as much as possible; if tents are taken, more animals are

required, with more men and provisions. Besides, the nature of the soil and the lack of wood make tent-pitching difficult. Men can easily travel and sleep on the ground, but with women shelter is necessary; if any transportation of instruments or specimens is contemplated, a wagon is indispensable. The roads are, upon the American standard, good, so that fairly heavy loads can be drawn.

The region traversed is a plateau with mountains rising from it, isolated, in groups, or in ranges. The altitude varies from 2500 feet near Pecos to 5000 feet at Fort Davis; the highest of the mountains are from 8000 to 9000 feet in altitude.

In common with much Cordilleran scenery the altitude of the observer detracts from that of the peaks, but the boldness of outline, the sternness of color, and the massing of composition give the impression of great strength, sometimes even of sublimity. The "mesa" type is present, but not by any means universal, and views of Alpine outline are abundant (see figs. 49–51).

The valleys are broad and very long; in some instances the mountains are visible fifty miles down the valleys; the base being

FIG. 50. — The Rio Grande, looking southeast from Presidio.

hidden by the curvature of the earth, the effect is comparable to a view at sea. The bottoms of the valleys are often absolutely flat and scarred by stony arroyos quite disproportioned to the occasional pools or insignificant streams which occupy them much of the year.

The mineral resources are undeveloped: silver is mined near Shafter, and gold has been reported; as yet the difficulties of life and transportation interfere with the growth of permanent agricultural or industrial settlements.

Climatologically, the region is semi-arid. On the more level plateau trees hardly exist; thin woods may be found on the mountain slopes in isolated localities, but as a whole the vegetation is confined to sparse grass, mesquite bushes, greasewood, various thorny shrubs, and many species of cactus. Meteorological observations have been kept at Pecos and Fort Stockton, and continuously at Fort Davis (5000 feet). The record at Fort Davis for 1905 is: maximum temperature, 96°; minimum temperature, 3°; annual average, 58.4°; departure of annual average from normal, — 2.4°. Precipitation, 23.13 inches; departure from normal, + 9.10; snowfall, 6.5 inches; prevailing wind, southwest.

The rainfall occurs mostly in the summer, and ten months may elapse without precipitation. The lack of water is the economic problem; water can be found by drilling wells, and it may be preserved in "tanks." True springs are rare. In the mountains the larger streams are permanent, but in the more level parts such a stream as Alamito creek, with a length of eighty miles, becomes a series of widely separated pools.

During our trip the average of cloudiness was rather high; cloudless days were rare; cumulus clouds formed frequently during the afternoon and stratus in the west, but the former generally soon disappeared. Absolutely no dew was observed. The temperature is strictly continental, with large daily ranges and violent changes. The spring of 1909 was particularly windy, and next to the aridity the wind is the controlling feature of camp-life.

We experienced three "northers," all of which sprang up about midnight after an evening of exceptional calm and beauty. The drop in temperature incident to the first (April 8) at the base of the

Barilla mountains was 40° in fifteen hours; of this perhaps 25° occurred between midnight and four o'clock in the morning. Complete cloudiness and a tentative mist accompanied the first (the only precipitation during the trip), the second was absolutely cloudless, and the third presented a mixed condition.

The wind velocity may be estimated at from 18 to 50 miles an hour; the wind was almost abnormally gusty, considering the open

FIG. 51. — View near Alpine, Texas.

country, and came from the north, northwest, and east-northeast respectively in the three storms. The second storm (Fort Davis, April 12) was accompanied with dust. A typical hot dust-storm took place April 20, overtaking us in the Alamito valley. The wind was southwest and more constant than the "northers," the air became filled with dust both palpable and impalpable, and the sky and mountains were obscured to about the degree that arises from a summer eastern haze on the Atlantic coast.

Camping in the open during these storms is attended with great discomfort.

The interesting and sometimes beautiful phenomenon of "sand-

spouts" was frequent on hot, still days. Several of the pillars, apparently almost motionless, could be seen at once; they are of course characteristic of all hot deserts.

It is commonly asserted that sensible temperatures differ according to humidity; that is, heat feels hotter on a muggy day, and an eastern cold wave is more severe than a lower temperature on a western prairie; this was not the experience of the writer as to either heat or cold accompanied by the excessively low humidity. Possibly this was owing to the suddenness of the change to the outdoor life, to the high wind velocities in the cold periods, and the absence of wind during the hot — or, more likely, to personal qualities, propensity to perspiration, type and thickness of clothing, etc. This is worth noting, as sensible temperature practically controls industry and life in extreme latitudes and altitudes; many factors other than absolute temperature, pressure, and humidity are to be considered, especially in connection with the availability of certain places as health-resorts.

Fort Davis, with a comparatively small annual range of temperture, is beneficial in cases of tuberculosis and well-regulated sanatoriums are desirable. The region traversed is almost exclusively devoted to grazing; horses, mules, cattle, and goats find a somewhat meager livelihood; the poisonous and insidious "loco" (*Astragalus mollissimus*, etc.) kills many and the treacherous mud banks catch others alive; the desiccated bodies and skeletons of these beasts are of frequent occurrence. There are a few antelope and panthers, and in the Chinati mountains can be found fair hunting. Near Marfa, especially, along the line of the Southern Pacific Railway, crows are found in surprising numbers; their habits at roosting-time and their disputes over places on the telegraph wires are instructive and diverting.

Insects in April are practically absent; save for the Rio Grande valley there are no flies, and of fleas, mosquitoes, and noxious bugs not a trace; snakes are not seen at this season.

The district is rich in paleontology, particularly of the upper Cretaceous; in an hour's search the following were collected in a bank on a mesa near the Barilla mountains:[1] *Turritella vertebrator-*

[1] The identifications were very kindly made by Professor Robert T. Jackson of Harvard University.

*des, Holaster simplex, Anomia, Gryphæa pitcheri, Ostræa larva, Neithea texana*, sea urchin. Other species, vertebrate and invertebrate, can be readily found.[1]

The geology is varied, the rocks ranging from sedimentary Carboniferous and Cretaceous to igneous of later epoch. The sedimentary limestone is somewhat monotonous, but the igneous basaltic formations in the Davis mountains are of great interest; of a striking reddish brown color the columnar cliffs of Limpia cañon surpass the Siebengebirge and the Giant's Causeway in tone, though not in size and perfection. Caves of all kinds are numerous, both under level valleys and in perpendicular cliffs; rock-shelters occur wherever an eroded rim or scarp gives opportunity.

Near a spring about six miles north of Shafter, on the road to Marfa, is a deposit of igneous material resembling cinders and lava; the absence of any obvious crater here is striking.

Of the archeology of the trans-Pecos territory little is known, and with one exception no extended scientific exploration has been attempted.

Pueblo Indians do not seem to have occupied it; the inhospitable character of the land does not invite to permanent settlement; tribes, however, passing through on errands of migration, or hunting, or by reason of their warfare with Americans or Mexicans or with other Indians, have left traces at their stopping places.

These may with some certainty be referred to the Apache (Athapascan) and probably later to the Comanche (Shoshonean); these tribes as allies made trouble for the white settlers during the last century. The entire district is included in the overlapping Apache and Comanche-Kiowa claims.[2]

The remains observed or reported may be classified under work-sites and caves.

Work-sites, identified by chips of flint and other stones, may be found almost anywhere. They are more abundant along the water-

[1] Cf. R. T. Hill, Geological Survey of Texas, Bulletin 4, 1889, p. vii. E. D. Cope, Preliminary Report on the Vertebrate Paleontology of the Llano Estacado, Austin, 1893. F. W. Cragin, Invertebrate Paleontology of the Texas Cretaceous, Austin, 1893.

[2] Cf. C. C. Royce, Indian Land Cessions of the U. S., 18th Rep. Bureau of Ethnology, 1896–97, part 2, pl. clxiv, nos. 688 and 478.

courses, near springs and rock-shelters, and on commanding hill-tops. On the theory that the population was migratory, this is to be expected. Thus, near the Darter ranch, 40 miles south of Pecos, near the southern entrance into the Barilla mountains, quantities of chippings may be observed along the low bank of the broad arroyo. They were particularly localized near a ruined hearth or chimney (itself possibly not of Indian origin). This in turn is dominated by a rock-shelter with pictographs near the summit of a mesa 200 or 300 feet high.

As one retires from the banks, the flints become less numerous. Again, along the sides of a stream flowing from springs on the southern slope of the Barillas there are evidences of work; here the fragments are smaller and the chipping is much more delicate than elsewhere; a minute scraper, three-quarters of an inch in length, was taken by Mrs Peabody from the muddy bottom of the spring itself. Its occurrence there is probably accidental; the springs vary so much from month to month in number, position, and size that it is hardly conceivable that the Indians should endow any special one with particular ceremonial virtue.

For part of the distance near the McCutchin ranch, in the open valley between the Barillas and the outliers of Major peak, "road specimens" were good, but higher up in Limpia cañon proper there were none observed; yet here there is running water. Near Fort Davis much material can be picked up near Carpenter mountain, 11 miles to the west near the Merrill ranch; specimens were also reported from near the Camp-meeting Ground, 20 miles west on the road to Valentine.

South of Marfa, on the road over the hills to Shafter and thence to Presidio, specimens were extremely rare, as they were also near the Rio Grande on both sides. A walk of some hours on the Chihuahua side, east of Ojinaga, revealed but one doubtful "reject" and a threshing floor with sherds of primitive but modern pottery. The hills of Presidio county do not surprise one by this paucity of material, for the Shafter neighborhood is the most barren of all, and the country rough and broken. But why specimens should not be found along the Rio Grande beyond the flood limits is hard to explain.

Turning north, following up the valley of Alamito creek, traces again become evident.

At the Lopez ranch, about six miles from the Rio Grande, on a hill back of the house is a site commanding a superb expanse of country to the south. Here are many flints, rather rudely chipped, and two circles of piles of loose stones, many of which bear traces of fire. A small Mexican boy of the ranch pointed out another site on an eminence at a distance.

From there for 20 miles (nearly to Alamito) evidences of work are continuous, and almost every hilltop and ridge can be counted on to furnish specimens.

Thus it appears that the Indians' journeys and stopping-places can almost be mapped by their work-sites, following as they do the lines of least resistance and collected about those places which provide water, shelter, and control of an enemy's movements.

A feature of many sites is the circles of stones, sometimes more or less piled up, sometimes lying flat. There is such an abundance of natural stones that it is sometimes difficult to judge whether the arrangement is accidental or not. Several theories are locally current as to their origin, viz., that they are the remains of small defensive towers behind which, in lieu of trees, the Indians should hide; another explains the presence of several piles together as indicating the number of warriors in a party, and the informant further added that it was a custom to lay a stone or stones pointing from the circle in the direction of departure. Such a condition may have obtained at the Lopez ranch where two circles of such piles are observed. Again it is suggested that the pyramids or cones of stones were built with a slant in the direction of water.

All these are possible explanations; it is highly likely, however, that many are simply hearths; this is strengthened by the appearance of burning presented by many stones and by the widespread Indian custom of preparing such hearths.[1]

One is impressed, while riding, by the occasional alignments of equidistant stones along the road; these are also referred to water-

[1] Mr C. C. Willoughby of the Peabody Museum, Cambridge, has in his collection several interesting photographs of such circular hearths excavated near Concord, Massachusetts.

directions; it may be, on the other hand, that they were set up recently during the progress of one of the topographical surveys.

At an extensive work-site three miles north of the Lopez ranch there lay on an open flat rock sixty-one crystals of calcite; such a cache, if cache it can be called, of decorative, non-utilizable material, is to the writer unique. Its interest is not lessened by the fact that the edges and faces of the crystals present so perfect a surface as, in the opinion of Professor Charles Palache of Harvard University, to preclude an exposure to sun, rain, wind, or sand of more than a year.

FIG. 52. — Pictograph in shelter on Square Top mountain.

Who brought them and whence — whither destined is unknown. It is possible that until recently they were covered by other stones, but there is no certainty in the matter.

True caves were not long occupied by man, but the rock-shelters are interesting: they were visited as follows: (1) Two miles and a half northeast of the Darter ranch, at the southern end of the Barilla mountains; it (with others) is in the "rim-rock" of Square Top mountain, about 200 feet above the plain. (2) In the "rim-rock" on the eastern side of the ridge, one quarter of a mile south of the Darter house. (3, 4) In the eastern and western base of Carpenter mountain, near Fort Davis. (5) At the base of the ridge on the western side of the valley, nine miles southeast of Shafter, on the road to Terlingua. (6) One mile east of the Bogel ranch, upper Alamito valley, 12 miles south of Marfa.

The floor deposits are not deep; no skeletons and but few chip-

pings were found. A burial is reported from the cave at the back of the Bogel rock-shelter, and numerous others from higher up on the same ridge; these are covered with stones (a custom common to the later Indians and the Mexicans[1]) and contained some accompanying flints.

All these rock-shelters have been occupied, and contain pictographs of which a short description follows

FIG. 53. — Pictographs, Darter shelter.

1. The shelter has an entrance nine feet broad and an overhang seventeen feet high; it faces west. The pictographs (on both walls) include (*a*) figures of eight broad curves and lines, half an inch wide, in red, with smaller figures between in broader black lines; (*b*) a combination of curved lines and circles with dots, in black, suggesting a grotesque cactus (fig. 52); (*c*) a row of thirteen deeply indented lines perpendicularly depending from two horizontal lines.

2. The shelter faces northeast; it rises from a height of three

[1] Six miles south of Alamito, at the top of a ridge near a "tank" of water, is a long pile of loose stones with a Latin cross at the eastern end forming a Mexican grave of about 1899.

feet at the entrance and is ten feet deep. The walls and roof are much blackened by smoke, which seems to be of the same age as the pictographs. These consist of innumerable grooves, sometimes parallel, sometimes crossing, and cut to a maximum depth of a third of an inch (fig. 53). They may certainly be divided into (*a*) sharpening grooves, (*b*) tally marks, (*c*) symbolic designs, (*d*) unrecognizable forms.

Under (*c*) is an interesting sun or star with a hollow center and nineteen rays; and under (*d*) a complicated figure (turtle) stippled, not cut so as to appear light on the dark rock-surface.

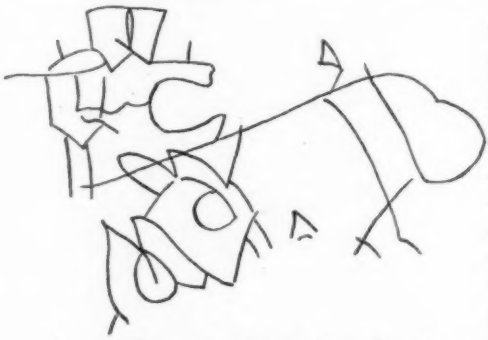


FIG. 54. — Pictograph in shelter at Mount Carpenter.

(3) The shelter faces eastward and is a natural hollow six feet high and the same in width and depth. It was originally well covered with pictographs, but as the surface is scaling away through seeping and atmospheric influences many have disappeared. The most striking fragment is given in figure 54; the lines are brownish-red and about half an inch wide.

(4) Directly opposite, facing westward, at the base of the same mountain is a natural dolmen-shaped shelter near a work-site. The pictographs in lighter red emphasize a W motive; this is hardly significant, as so many of the adjoining lines are obliterated.

(5) The shelter faces northeastward and is black with smoke. Red pictographs in parallel and converging lines and triangles adorn it; some of them combine to form a resemblance to the modern Comanche sign for "farewell" (on the testimony of Wellington Glaze, who, as a cowboy, has had experience here). Near by is a cut or stippled human face or skull, through the upper part of which

PICTOGRAPHS, BOGEL SHELTER, TEXAS

is drawn a red line. A few paces to the south is another small shelter, and near it on the rock a figure in red of an arrow pointing upward.

(6) The shelter is large and faces westward; it is about 100 feet long, 14 feet deep, and 14 feet high; its pictographs are quite celebrated. They include a set of figures, human and not human, in black; an outlined Greek cross in red; a headless human figure, eight inches long; many parallel lines in red; six black marks over a small recess; a scalp-shaped figure, in black, and (see plate x) lines in red, a rude arrow in orange, nine horned animals pointing the same way, and some modern initials.[1]

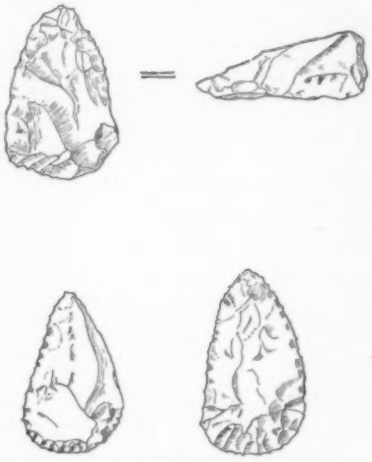


FIG. 55.—Scrapers from the Darter work-site. (½)

No archeological sketch is complete without a mention of the cache of minute points discovered on the summit of Mt Livermore, 8300 feet high and the highest of the Davis mountains. It was first noted by Mr T. A. Merrill and later thoroughly excavated by Mrs S. M. Janes of Fort Davis, in whose possession the points remain. Over and around the points was piled a mound of stone; they number more than a thousand, finely chipped and of various forms. Both points and site are undoubtedly ceremonial. It is hoped that Mrs Janes will publish a detailed account of this discovery, which may prove unique.

[1] Cf. Garrick Mallery, 4th Rep. Bureau of Ethnology, especially pl. II, x (California). W. H. Holmes, Trans. Anthrop. Soc. Washington, II, 1882–83, p. 163. W. J. Hoffman, *Am. Anthropologist*, 1888, pp. 209–29. W. J. Hoffman, Trans. Anthrop. Soc. Washington, II, 1882–83, pp. 136–37. L. W. Gunckel, Am. Antiquarian, 1893, pp. 223–29. J. Teit (ed. Boas), Mem. Am. Mus. Nat. Hist., N. Y., vol II, Anthropology I, Apr. 1900, pls. XIX and XX.

The archeological material collected is in the main rough. The high, humped type of scraper (fig. 55) is the only complete implement found in any abundance, and nearly all are from the Darter work-site.

Fragments of points, knives, and scrapers, cores, spalls, chips, and unfinished, unsatisfactory, and rejected implements constitute most of the surface specimens.

Occasionally one finds a good (Indian) "*coup de poing*," or a flat knife. The absence of perfect specimens is accounted for by the supposition that the Indians carried away their finished products. White men's collecting has assisted as well.

The material, flint and chert of various degrees of purity and hardness, is probably native to the region.

Metates and rubbing- and hammer-stones are also very plentiful, the first sometimes very fine. In a few places grinding holes in the flat rock are to be seen.

The outlying mountain regions of El Paso and Brewster counties are reported to contain caves and burials, and a careful exploration of these would be worth while. A collation of the pictographs, which must exist in very great numbers, is also a work which it is very desirable to have done.

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# THE ESKIMO TRADE JARGON OF HERSCHEL ISLAND

By V. STEFÁNSSON

WHEREVER white men have remained for a year or more in definite contact with the Eskimo people there has sprung up a more or less complete system of jargon talk mutually serviceable to both parties. In some such well-known examples of jargon as Pigeon English, the basis is a European tongue or a number of European tongues; in the jargon employed by the Eskimo in dealing with either white men or Indians the basis is (so far as known to the writer) always distinctly Eskimo. At the root of many nouns, however, lies an English word, but it is usually so metamorphosed as to be well-nigh unrecognizable — witness Point Barrow jargon *ñ'-ra*, derived from 'rice.'

It is necessarily difficult to one habituated to the use of an inflected language to become perfect in the use of an agglutinative tongue. Speaking without definite knowledge, the writer supposes it more difficult to learn Eskimo than Chinese — more difficult through the indefinite variations of an unwritten language contrasted with the precision of a written one; more difficult also through the lack of suitable dictionaries and the absence of skilled teachers. Nevertheless this is far from being the popular understanding of the case. Since adventures in Labrador became the holiday fashion and Lawrence Mott and others began writing Hudson Bay tales, one meets every week or two someone who has a friend who has been in Hudson bay three months and speaks Eskimo like a native! Arctic whalers are currently supposed to be masters in the polar tongues, and even our Government has lent its countenance to the publication by one of them of a book said to be on the Eskimo language but which is in reality a study in ships' trade jargon.

Confronted with the kaleidoscopic changes in form of the real Eskimo speech, the casual observer finds no rhyme nor reason, and the ordinary one does not suspect there is any. If he finds that an

evidently hungry man says *kaak'tuña* when he wants food, that is translated 'hungry'; when subsequent investigation reveals the pronouns *awoña, illipsī, īla* [I, you (plural), he], the whaler or trader makes up the sentences (1) *awoña kaktuña*, (2) *illipsī kaktuña*, (3) *īla kaktuña*, which he considers to mean respectively 'I am hungry,' 'you are hungry,' 'he is hungry'; and that they eventually come to mean in the jargon. Being interpreted, they read, however, (1) 'I I-am-hungry'; (2) 'you (three or more of you) I-am-hungry'; (3) 'he I-am-hungry.'

An Alaskan missionary has told the writer that on arrival at his post of duty he was instructed as follows by his predecessor (who had been preaching the gospel to the heathen for seven or eight years "in their own language"): "When you want a boat to take you on shipboard, go to anybody who owns a boat and say: '*Ō-mī-ak-pûk a-lak'-tok pī-cū'k-tok a-woñ-a*'; that means: 'I want to go on shipboard.' Taken in order the words really mean, however: 'the ship | he goes | he wants | I.' While the correct Point Barrow form of the expression "I want to go on shipboard" is: *ūm'-ī-ak-pī-ok''-tuña* (abbreviated from *ūm'-ī-ak-pûx-mōx-ō''k-tuña*).

The writer has set down the jargon as nearly as may be in accord with ordinary Herschel island usage, though he is also familiar with it as used at Point Barrow. At Herschel island, indeed, practically all forms of the jargon exist side-by-side, for here gather whalers who have picked it up in Kotzebue sound, at Point Hope, Point Barrow, and at other places—and even one or two who have it from near Marble island on the Atlantic ocean side—from which source we probably have at least the two words *kab-lū'-na*, 'white man,' and *kū'-nī*, 'wife,' 'husband.' As to pronunciation, much depends too on the individual white man—two skippers from Martha's Vineyard may differ widely both in ear and tongue, while in the mouths of Norwegians, Germans, Kanakas, and Cape Verde islanders the words assume varied forms. A semblance of uniformity is possible in a vocabulary like the present only by adopting the Mackenzie River Eskimo pronunciation as used in dealing with whites—which has accordingly been done.

Among the Mackenzie River Eskimo there is, beside the ships' jargon, a more highly developed one used in dealing with the Atha-

basca Indians around Fort Arctic, Red River, and Fort Macpherson. This form is unfortunately but slightly known to the writer. It has probably more than twice as extensive a vocabulary as the ships' variety and is so different from it that some white men who know the ships' jargon have employed as interpreters Loucheux Indians under the impression that the Indians spoke real Eskimo. The greatest difference results from the inability of many white men to distinguish the final k sound characteristic of Eskimo words, while the Loucheux not only keep all the final k's and other consonants, but even put k's where they do not belong. By dropping the final consonant the white man often comes near using the *stem* of the word in its proper form. Another difference is in that the Loucheux derive their form usually from the third person singular indicative present, while the whites derive theirs from the corresponding first person singular. The following forms bring out these and other differences.

| English | Loucheux Jargon from Eskimo | Ships' Jargon |
|---|---|---|
| hunger, hungry | *kak'-tŏk* from *ka-a'k-tŏk* or *ka-a'k-tu-ak* | *kak'tūñ-a* from *ka-ak'-tūñ-a* |
| break, broken | *na-vĭk'-tŏk* from *na-vĭk-tŏk* or *na-vĭk-tu-ak* | *na-vĭk'-ta* from *na-vĭk-tŏk* (?) |
| die, dead | *na-vĭk'-tŏk* from *na-vĭk-tŏk* or *na-vĭk-tu-ak* | *mûk'ki* from (Kanaka?) |
| wife | *nŭ'-ĥ-ak* from *nŭ-ĥ-a(k)* | *kŭ'mĭ* from (Danish, *kona?*) |
| that one, he | *ŭ'-na* from *ŭ'na* (that one) | *ɪ-la* from *ɪ'-la* (he) |
| want, wants | *pi-cūk'-tŏk* from *pi-cūk-tŏ'k* or *pi-cūk'-tū-ak* | *pi-cūk'-tū* from *pi-cūk'-tŏk* |

Although the Loucheux employ their jargon at present largely in dealing with the Mackenzie Eskimo, the form of their jargon words shows pretty plainly that it (the jargon) must have been developed in contact with inland Eskimo or those from near Point Barrow. This is rendered probable, too, through our knowing that from remote times there was a trading rendezvous at Barter island where met not only Eskimo from east, west, and inland, but also one or more groups of Indians. At that time (forty or more years ago) the Indians and Eskimo were in continual hostility on the

Mackenzie river. The following words are introduced for comparison; the list could be indefinitely lengthened. So far as known to the writer this comparison gives us the only available clew as to what Indians they were with whom the Point Barrow Eskimo in ancient times exchanged goods at Barter island and Collinson point.

| English | Loucheux Jargon | Pt Barrow or Inland Eskimo | Mackenzie River Eskimo |
|---|---|---|---|
| good | *na-gō'-rōk* | *na-gō'-rōk* | *na-gō'-yū-ak* |
| wood | *kē'-rūk* | *kē'-rūk* | *kē'-yūg* |
| now | *pûg-mûm'-mī* | *pûg'-mûm-mī* or *kag'-mûm-mī* | *kag'-ma* |

Some whalers and traders who deal with Eskimo try to make use of their knowledge of word changes, with results amusing to the Eskimo, for while he is hardened to the jargon he finds attempts at correctness laughable. Most whalers, for instance, when speaking of going ashore, will use the uninflected (accusative) form of the word for 'land' (*nū'-na*); others have noticed that the Eskimo says he is going *nū'-na-mūn* ('toward or to the land') and have translated this (mentally) 'on shore.' Accordingly they will thereafter use the termination *-mūn* in a locative sense as well as in its real terminal one, and will speak of a tent being *nunamun*, 'toward the shore,' when they mean to say it is on shore.

Mistakes of this character, as well as many others, are likely to get upon our maps. An instance is Beechey point, the native name of which is *Ō-lŧk'-tōk*. If you ask a man "Where are we now?" he will answer (using the locative case), "*Ō-lŧk-tō'-nī*," 'at Oliktok'; ask him where his tent is, or where deer hunting is good, and he may answer "*Ō-lŧk-tō'-nī*." Accordingly every white man who knows the place by an Eskimo name knows it as *Ō-lŧk-tō-nī* or *Ō-lŧk-tō'-nī*, and so it may one day appear in some Government report and become authoritative — as many such things have become "authoritative" in the past. It would truly seem absurd not to take the word of men who live in the neighborhood and who have had Eskimo wives for nearly twenty years.

It is rarely the jargon makes a difference between singulars and plurals, while the dual may be said to be never recognized. Occa-

sionally the singular *il-lū-it* (thou) and the plural *i-lip'-sī* (you, three or more) are differentiated, and still more rarely *in'-nūk* (a man) and *in'-nū-it* (men, three or more). A friend of the writer's at Herschel island had discovered the form *e-lip'-tik* (you, two of you) and had been told it meant "you two." As spoken, this sounded like "you too" and was accordingly given the writer in that signification as a bit of special knowledge possessed only by the informant. This is the writer's only experience with the dual in actual use in the jargon.

The suffix *-lūk*, *-hlūk*, *-qlūk*, which has entered such (rarely used) jargon words as *ōk-tcûk-lūk*, *tūk-tū-lūk*, is of some special interest. Primarily it means 'bad,' 'wretched,' 'wicked,' 'worthless,' 'spoilt.' What the Mackenzie (the same holds of some others) Eskimo thought of certain white men's wares is shown pretty well by *kam'-mik-hlūk* (makeshift pants) for cloth pants, *ōk-tcûk-hlūk* (spoilt oil) for kerosene, *tūk-tū-qlūk* (bad deer meat) for pork or bacon, *tañ-a'-qlūk*, molasses, etc. In other words, these names bear out pretty well the Eskimo statement that when on board ships they found eating white men's food a sore trial and considered their clothes (as they still consider them) makeshifts at best.

In a system of speech comprising only a limited number of uninflected words, much depends on circumstances and context as to the interpretation of any set of them. A sentence perfectly intelligible and definite when used in the course of a conversation between men who are face to face may become of uncertain meaning, of many meanings, or no meaning at all, if divorced from its accompanying gestures and set down isolated in writing or print.

Take as an instance the jargon sentence *Kim-mik ka'i-li pt-cū'k-tū* (see vocabulary for meaning of words). If it were in answer to "Why are you whistling?" it would mean "Because I want the dog [e. g., my dog, his dog, the dogs, your dogs] to come. If it were in answer to "Why do you want Jim?" it might mean "Because I want him to bring a dog [his dog, my dog, etc.] to me." If it were an answer to "Why are you locking the door?" it might mean "Because the dogs keep trying to get into the house." If in answer to "Why did Jim go to Fort Macpherson?" it might mean

"Because he wants to get dogs there"—and so on, world without end. It will therefore be understood that the translations given for the illustrative sentences in the body of the vocabulary are but a few among the many possible meanings of the word combinations used.

## Vocabulary of the Herschel Island Jargon

The system of spelling used is that of Powell's *Introduction to the Study of Indian Languages*. Where a word has two accents, the minor accent is indicated by ′ and the major by ″.

In some cases (e. g., *tē′rēva*) it is evident the jargon word is derived from a form other than that cited for Mackenzie river. When the Point Barrow, Inland, or Western form is known to the writer, it is inserted (see, e. g., *tērĕgandia*).

As *c* is used as the equivalent of (English) *sh*, words containing this character are entered where they would stand if spelled with *sh*.

The writer cannot vouch for the syllabification of every Eskimo word in this vocabulary — he bases it entirely on his own pronunciation of the word, which is likely in some cases to be open to material criticism. This paper is written where it is unfortunately impossible to refer to a person speaking the Mackenzie dialect for verification of accent or division into syllables.

The vocabulary is briefer by a good number of words through the omission of most common and proper nouns that are only slightly-corrupted English and which would be readily understood by a newcomer in the Arctic.

Any jargon word may by itself be used as a question, or any combination of words may be so used. The question, if not required by the context, is indicated by inflexion.

## Vocabulary

**a′-ba-ba** (Kanaka?), say, speak, give orders; speech. *ō-mē′-lĭk a′baba ca′-vik ka′ili i-lĭ′p-si*, the captain orders you to bring him a knife. *ababa pĭ′tcûk*, shut up! (according to context, may also mean he said nothing, I said nothing, etc.). *ababa tusa′ra pĭ′-tcûk*, I heard no talking.

**a′-dĭ-ga″** (used as an exclamation by inland Alaskan Eskimo, at Pt Barrow and westward = fine! excellent! handsome! etc.), pretty,

good, desirable; used also to differentiate holiday from ordinary clothes, as *awön'ga adiga kam'mik*, my ornamented (i. e. Sunday-go-to-meeting) boots.

**ad'la** (used by Esk. west of Herschel island), another, the other. *i'-la adla in'nūk*, that is another man.

**ai-pa'-ni** (Mackenzie Esk. *aipa'nī*, last year, or any time longer ago than last year, but less than a generation), last year, long ago.

**ai'-pañ-a** (Western Esk. *ai'paña*, his other one), the other, the second of two. *aipaña kam-mik na-vik'-ta*, the other boot is torn. *ômē'lik aipaña*, the first mate (i. e. the captain's second, or rather, the second, therefore lesser, captain).

**ai'-tcu** (Mac. Esk. *ai''-tcō-i-xa'*, I give him), give, pay, give in exchange. *awoñ'a ca'vik ai'tcū*, *ila awoñ'a ekal'luk ta'llimat a'itcū*, I gave him a knife (for which) he gave me five fish.

**a'k-kī-a** (Mac. Esk. *ak'kicak*, something to be traded; *akkisūyūak*, it is expensive), buy, sell, trade; the thing intended for or obtained in trade. *akkīa añaninni picū'ktu pitcûk*, I don't want to pay a big price, he does not ask a big price, etc.

**a'k-lū-na** (Mac. Esk. *aklūnak*, now a general name for rope, line, etc., though it may have had more restricted meaning before whites came), thread, string, rope, chain (*ca'-vik aklūña*), dog harness (*kiñma aklūña*), etc. *ak'lūña mē'k-fast kiñma*, tie the dog with a rope (or string, chain, etc.).

**a'-mī-a** (Mac. Esk. *a'mīak*, skin of an animal (not of a man), bark of tree, husk or shell of a seed, etc.), skin, fur.

**a'-na** (Mac. Esk. *an'nū*), harness, dog harness. *awoña kiñma a'na ca-bakto*, put harness on my dog. (Most whalers use in place of *ana*, "*kiñma artegi*" or "*kiñma akluna.*")

**a'-na-na** (possibly Kanaka, though *an'nènnak* is said to be used at Pt Barrow in sense of the 'cause of' or 'reason for,' a pain), sick, sickness. *kuni anana añaninni*, my wife (or husband) is very sick.

**añ-a-nin'ni** (Mac. Esk. *añ-i-yū-ak*, it is big; possibly from West. Esk. *añ-i-nirk-cûk*, it is quite large), big, much, very; as big price, very fast running, very heavy, etc., when combined properly, as *elekta kīlamik añaninni*, he (or I, they, it, etc.) travel (run, sail, etc.) very fast.

**an-au'-ta** (Mac. Esk. *anau'tak*, an ax, club), ax; *anauta mikaninni*, hatchet.

**an'-nū-ĭ** (Mac. Esk. *an'-nū-i,*), wind; *annui añaninni*, storm, blizzard.

**a'-pun** (Mac. Esk. *a'pun*, general term for snow lying on the ground, as opposed to drifting or falling snow), snow.

**ar-tē'gĭ** (Mac. Esk. *ar'tĕgi*, coat), coat covering, harness (*kiñma artĕgi*).

**a"-tcū'** (Mac. Esk. *ä-tcū'*, I don't know), I don't know, he does not know (used with *ababa*, i. e. *ababa ätcū'*, he says he does not know); used also for perhaps, if, either-or, as *uñasĭkcu tautuk awoñga atcu tuktu atcu kĕruk añaninni*, I saw far away either a deer or a large piece of wood. *atcu oblakun sila nagorok*, perhaps it will be good weather tomorrow.

**at'-ka** (Mac. Esk. *a'-tirk*, name; *at'-ka* = his name), name.

**a'-va-nĕ** (Mac. Esk. *ab'-vak*), half, as *palauwûk avanĕ*, half (a sack of) flour.

**a-wo'-ña** (Mac. Esk. *ūwû'ña*), I, my, as *awoña kammik*, my boots.

**boi'-lĕ-rū** (English boil), to boil, cook by boiling, as *nekke boileru*, boil the meat.

**dak'-tū** (Mac. Esk. *d'aktuak*, it is dark — the *d* has an explosive sound which really makes it more nearly equivalent to English *t*; many whalers accordingly say *tak'tu*), darkness; dark, black.

**ĕ-kal'-lūk** (Mac. Esk. *ĕkal'lūk*), fish.

**ĕ-lĕk'-ta** (Mac. Esk. *aud-la'k-tu-ak*, he goes, travels), go, travel, run, fly, swim, etc.; used also of inanimate things, as rifle bullets; also has meaning of break off, become loose. *ĕlĕkta!* go! *kikia ĕlĕkta*, the nail pulled out (or broke). *kaukau homolûktu kimmik kĭlamik ĕlĕkta*, dogs travel fast when they have plenty to eat.

**ĕl'-lŏpa** (possibly Kanaka, though universally used now by Eskimo everywhere west of Herschel island at least as far as the Kuwûk), cold, it is cold, I am cold, etc. *awoña artegi ĕllŏpa picuktu pĭtcûk*, my coat is warm (i. e. it does not want cold. This sentence illustrates pretty well the flexibility of the jargon).

**han'naha'nna** (Kanaka?), to sew, sewing. *wai'hinni artegi annahanna pûgmûmmi* (or *annahanna cabakto pûgmûmmi*), the woman is sewing a coat now.

**hŏ-mō-lûk'-tū** (Kanaka?), plenty, many, much. *ekalluk hŏmōlûktū*, plenty fish.

**ĭg'-lū** (Mac. Esk. *ĭg'-lu*), house, though usually used of native houses.

**ĭg'-lū-pûk** (Inland and Western Esk. *ig'lūpûk*, a big house, usually used of white men's houses), at Herschel island means primarily the Hudson's Bay Co.'s trading-post, Fort Macpherson, though used of the police barracks at Herschel island. At Pt Barrow used of any of the big white men's houses. *awoña iglupûk ĕlĕkta*, I am going (I went) to Fort Macpherson.

**ĭg-nĕ'-ra-vik** (Mac. Esk. *ig-nĕ'-ra-vik*, a place for fire), stove.

**īg'nĭ** (Mac. Esq. *īg'-nûrk*), fire.

**ĭk-pûk'-cak** (Mac. Esk. *ikpûkcak*, yesterday), yesterday, last time — used for any past time less than a year.

**ī'-kūt-ta** (Mac. Esk. *ī'kū-ūn*, a small oil-soaked stick kept lying beside the native lamp, to be lit and used whenever needed as a torch, or to light a pipe, etc.), matches.

**ī'-la** (Mac. Esk. *ī'-la*, or *īl'-ya*), he, she, it.

**ĭl-lĭp-sī** (Mac. Esk. sing. *īl'-lū-ĭt*, dual *ĕ-lĭp'-fik*, pl. *e-lĭp'-sī*), you.

**ĭ-lu-a'-ne** (Mac. Esk. *ĭ-lu-a-ni*, in the inside of), in, inside, as *iluane kammik*, inside boots, i. e. socks.

**ī'-mĕk** (Mac. Esk. *īm'mek*, water; *ĭ-mer-ūk'-tū-ak*, he wants water), water. *īmĕk picuktu*, I want a drink.

**ĭñ'-ĭ-tĭn, ĭn'-nĭ-tĭn** (Mac. Esk. *ĭn-nĭ'-tū-ak*, he sits down; form probably derived from imperative (sing.) *ĭn-nĭ-tĭn*, sit down), sit, sit down. *innitin picuktu*, I want to sit down, he wants to sit down; *kamotik kolane innītin*, sit on top of the sled.

**ĭn'-nūk** (Mac. Esk. *ĭn'nūk*, a human being, homo, man; seldom used by whalers to refer to women). This is only one of the few words of which certain whalers occasionally use the plural form if referring to many, as *ĭn-nū-ĭt homolûktu*, many people.

**kab-lū'-na.** Of Greenlandic? (Eskimo?) origin. Mac. Esk. use *sū-blū-a-raun'*, Inland Esk. *tan'-nĭk*, West. Esk. *nal-lū-ax'-mĭ-ū(k)*, white man. *kabluna kammik*, white men's boots.

**kai-lĭ** (Mac. Esk. *kaĭ'-yū-ak*, he comes: derived from the imperative (probably) *kaili*, bring it here), come, bring it, etc. *anauta kaili*, bring the ax; *innuk kaili*, there is a man coming; *ababa innuk kaili*, tell (some) man to come here.

**kak'-kō-lak** (Mac. Esk. *kak'-kō-lak*. Original meaning of word?), hard bread, pilot bread.

**kak'-tuñ-a** (Mac. Esk. *ka-ak'-tū-ña*, I am hungry), hungry, hunger, appetite (starvation = *kak-tuña mûkki*); *kaktuña awoña*, I am hungry; *kaktuña mûkki innuk kōpûk*, people are starving at Kōpûk.

**ka'-lĭ-kō** (Eng. calico), any kind of woven or knitted stuff. *tupek kaliko*, tent drilling; *kaliko kammik*, socks (e. g. woolen).

**kam'-mĭk** (Mac. Esk. *kam-mak*, trousers), boots, socks, trousers, etc.

**ka-mō'-ta** (Mac. Esk. *kamō'tĭk*), sled.

**ka-nīt'-tū** (Mac. Esk. *ka-nīt'-tu-ak*, it is near), near.

**kap-sais'** (Eng. capsize), capsize, upset, spill, throw away (from a pan, dipper, pail, etc.), turn upside down. *mūgwa kapsais silatani*, empty this (e. g. slop pail) out of doors.

**kap-si′-nik** (Mac. Esk. *kap′-cīt*), how many?

**kau′-kau** (Kanaka? possibly related to our "chowchow"), food, to eat, to bite. *kaukau pitcūk owoxña*, I have no food, or, I have not eaten. *kimmik innuk kaukau picūktū*, the dog bites (is inclined to bite) people. Used also of mosquitoes, etc., stinging or biting.

**kĕ′-rūk** (Mac. Esk. *kĕ′rūk*), wood. Used in many ways; e. g., *tiglarautăn kĕrūk* may be (one ship) yard, boom, jibboom, bowsprit, or even the masts.

**kĕ′tcĕm** (Eng. catch-him, or catch them), get, take, etc. *ĭglupûk elekta ilipsi ĭglupûk kammik ketcem; awoña picuktu*: when you go to Macpherson get some Macpherson shoes (i. e. Indian moccasins); I want them. ("Get them; I want them," is the usual jargon way of saying "get them for me.")

**kĭ′-kī-a** (Mac. Esk. *kī-kī-ak*, a nail), nail, nails.

**kĭ-kī-ū′-na** (Mac. Esk. *kī-kī-ū′-nak*), a box.

**kī-la′-mĭk** (Mac. Esk. *kī-la′-mīk*, quick), quick, quickly.

**kī′-na** [Mac. Esk. *kī′-na, kīn′-ya*, or *kī′-nya*, who: used of people, dogs (and all things considered alive?)], who, which, which one. *kīna omiakpûk tautuk?*, which ship did you see?

**kĭñ′-ma** (Mac. Esk. *kĭm-mīrk*), a dog.

**kĭs′-sĭ-mĭ, kĭ-tcĭ-mĭ** (Mac. *kissimi*, only, alone), only, alone, nothing else. *palauwûk kissimi picuktu illuit?*, do you want nothing but flour.

**kō-la′-ne** (Mac. Esk. *kō′-la″*, above), above, on top of, the top.

**kūb′-ra, kūb′-dja** (Mac. Esk. *kūb-djak*, a net), a net — for fish or seal.

**kūd′-la, kōd′-la** (Mac. Esk. *kō-ōd″-lik*, a lamp), a lamp, lantern: some whalers use *na′-ne-rō-a*, a West. Esk. term for a white men's lantern.

**kūk′-kem** (Eng. cook-them), to cook, to be cooked. *nekke kukkem picuktu*, I want cooked meat, or, I want to cook meat.

**kū′-nī, kūn′-ya** (may be derived from Danish (Greenlandic) *kona*, woman, and brought to Herschel island by whalers who had previously sailed in the eastern Arctic), wife, husband.

**kwak** (among some groups of Eskimo *kwak* refers to any frozen flesh-meat, fish; among some it is restricted to frozen meat, among others to frozen fish), frozen, as *awoña kwakañaninni*, I got badly frozen (used also of frozen food: *kwak kaukau*, he eats frozen food).

**ma′-ni** (Mac. Esk. *ma′-nī*, locative case), here, in this (or that) place; hither. *ababa Kū′nak mani kaili*, tell Kunak to come here.

**mĕk′-fast** [Eng. make fast], tie, fasten, hitch up. *kiñ-ma kamotik mĕkfast*, hitch the dogs to the sled.

**mĕ-la′-tcûk** (Eng. molasses), molasses, syrup.

**mikaninni** (Kanaka? cf. *pickaninny*), small, little; a child; (even) a full grown son or daughter (man or dog).

**mĭ-ki-rū′-ra** (Mac. Esk. *mī′kiyūak*, it is small; Inland Esk. *mī′kirok*, it is small), a little. (*mikaninni* is more often used for "small.")

**mī′-lûk.** This is, in a way, an interesting form. The whites who use it consider it a corruption of the English "milk," while to the Eskimo it is their own word "*mī′-lūk*," which refers to any milk (human, caribou, etc.). Some groups of Eskimo west of the Mackenzie use also the form *ĭ′-mūk*, but most, if not all, words used to refer to milk, milking, sucking, nursing a child, etc., are formed on the *mīlūk* (and not the *ĭ′mūk*) stem. An imaginative theorizer on the fate of the lost Icelandic colonies in Greenland[1] might further point out that as the Icelanders are the only dairying people with whom the Eskimo are known to have come in contact in ancient times, the Icelandic form of this word becomes interesting. In the spelling employed in the present vocabulary the Icelandic *mjo′lk* would become *mĭ′-ôlk*. The two forms (Eskimo *mī′-lūk*, Icelandic *mĭ′-ôlk*) are decidedly easier to reconcile than some with which Thalbitzer is considered to have succeeded so well. It is evident that they are no farther apart than are the following words used today at Herschel island and derived from English within the last twenty years.

| | | | |
|---|---|---|---|
| *mĕ-la′-tcûk* | from molasses | *rai′-pa* | from rifle |
| *pa-lau′-wûk* | " flour | *pau′-ra* | " powder |
| *mĭ′-n* | " tea | *û′-ra* | " rice |
| *ka′-pi* | " coffee | | |

The following are from Point Barrow:

| | | | |
|---|---|---|---|
| *tak′-tĭ* | from doctor | *mĭ′-tcĭ* | from Mister |
| *pû′-rĕ* | " Fred | *pau′-dlû* | " powder |

and other forms still more bewildering.

**mĭt′-kŭ** (Mac. Esk. *mĭt-ku(k)*, the hair of an animal; e. g. a fox), hair (human or animal), beard.

**mûg′-wa** (Mac. Esk. *mûg-wa*, that one), this, these, those, they.

**mûk′-kĭ** [(Kanaka?) but now used by many Eskimo west of Mackenzie, with all the proper changes of form, instead of their own *d′ō′kōrōk*, he is dead], dead, broken (as a wrecked ship; cf. *navūkta*).

[1] See the writer's article, The Icelandic Colony in Greenland, *American Anthropologist*, 1906, vol. 8, 262.

**mûk'-kĭ-tĭn** (from imperative sing. of Mac. Esk. *mûk-ki tû'yū-ak*, he stands up), stand up, get up (out of bed); wake up.

**mûk-pau'-ra** (probably from *mok-pûk*, a small football kicked around by girls), fried bread, doughnuts.

**mûk-pra** (Mac. Esk. *mûkpĕrak*, paper; cf. *mûp-tu-gi-sū-yu-ak*, it is very thin), paper, letter, book, newspaper. *mûkpra cabakto*, to write a letter, read a book, etc.

**na-gō'-rŏk** (Mac. Esk. *nagō'yūak*, it is good; Inland Esk. *nagō'rok*, it is good), good—in various senses, as strong, willing to work, not a thief, good to taste, etc.

**na-na'-kō** (Kanaka?), after a while, by and by, afterward, later. *tuktu mûkki ila nanakō elekta*, he killed (some) caribou, then he went away.

**na'-nĕ-rĕ-a** (Mac. Esk. *na-nĕ-rĕ'-ak*, now used for steel traps also, though formerly the name for the log, ice, or stone deadfalls), a trap. *tĕrĕgandĕr nanerea cabakto*, to trap white foxes.

**nap'-pa** (West. Esk. *nûp-pak* (?)), half. Cf. *a-va-nĕ*.

**na-vĭk'-ta** (Mac. Esk. *na-vĭk-tu-ak*, it is broken), broken, torn; dead. Cf. *mûkki*, which ordinarily is used for dead, to kill, etc.

**nĕk'-kĕ** (Mac. Esk. *nĭr'-kĭt*), meat.

**nū'-na** (Mac. Esk. *nū'-na*, land, earth), land, earth, sand, gravel, etc. *nuna elekta awoña picuktu*, I want to go ashore.

**ō-bla'-kō** (Mac. Esk. *ō-bla'-kūn*), tomorrow.

**ō-blū'-mi** (Mac. Esk. *ō-blū'-mi*), today.

**ō'-kī-o** (Mac. Esk. *ō'-kī-ōk*), winter. *okio nanako*, next winter. For past winters the expressions run: *okio ikpûkcak*, last winter; *okio aipani kanittu*, a winter not long ago; *okio uñacikcu*, a winter long ago; *okio añaninni uñacikcu*, a winter very long ago; *malo okio aipani*, two winters ago.

**ōk'-tcûk** (Mac. Esk. *ōk'-tcûk*. This word is pronounced *ōg'-rōg*, *ūg'-rūg*, *ūg'-rū*, etc., by whalers, who have picked up the word at Pt Barrow or farther west. Inland Esk. *ōq'-ō-rŏk*), fat, oil, blubber, etc. *kiñma oktcûk mikirura*, the dog is not fat, or, there is little blubber for dog feed, etc.

**ōk'-tcûk-lūk** (Mac. Esk. *ōk'-tcûk-qlūk''*, bad, spoilt, or ill-smelling oil), kerosene. Some whalers, etc., use "*tipi ōktcûk*" (evil-smelling oil — literally) to designate "kerosene."

**ō-kūm-mai'-tcū** (Mac. Esk. *ō-kûm-mai-tcū-ak*, it is heavy), heavy.

**ō-mē'-lĭk** (Mac. Esk. *ūm-ī-a'-lĭk*, owner of an umiak (big skin boat), or, simply, a rich man), captain, boss, rich man.

**ŏ-mē'-lĭk ai'-pañ-a** (see *aipaña*); first mate of a ship; second in command.

**ŏ-mĭ-ak'-pûk** (Mac. Esk. *ŭm-ĭ-ak'-pûk*, a large umiak — though Mac. Esk. indicate bigness usually by *-ai'-ak* and *-pa'-luk* where Eskimo to the west use *-pûk* and *-cŭ'-grûk*), a ship.

**ŏ'-mĭ-ak pau'-ra** (Mac. Esk. *ŭm-ĭ-ak-pau'-yak*, a little big boat — used of whaleboats usually, but sometimes of schooners and sloops), a whaleboat, a wooden boat.

**ŏ-nak'-tu** (Mac. Esk. *ŏn-ak'-tu-ak*, it is a warm, hot), warm, hot.

**ŏ-pĭn'-ĕr-a** (West. Esk. generally *ŏ-pĭn'-er-ak*), summer. For designation of past summers, cf. *okio*. *nanako opinera malo tereva awoña-kaili suli picuktu*, after two summers are finished I want to come again.

**pa-lau'-wûk** (Eng. flour), flour, bread.

**pau'-dlŭ** (Eng. powder), gunpowder.

**pĭ-cŭk'-tŭ** (Mac. Esk. *pĭ-cŭk-tŭ-ak*, he wants, desires), want, be inclined to, to allow. For examples of use, see under *ellopa*, *opinera*, and various other words.

**pĭ-cŭ-nĭt'-tcŭ, pĭ-cŭñ-nĭt-tcŭ** (Mac. Esk. *pĭ-cŭñ-nĭt-tcuña*, I do not desire, I do not want), not to want, not necessary, needless. *tĕrĕgandia picunittcu*, I do not want fox-skins (or, he does not, etc.). *oblumi kaili picunittcu*, he does not need to come to-day.

**pĭ'-tcûk** (Mac. Esk. *pĭ-tcûk*, nothing; i. e. if I should ask a man "what's in that pail?" he might look into it and answer: "*pĭ-tcûk*," "there is nothing there"), no, not, nothing. This is perhaps the most useful term in the entire jargon vocabulary. Combined with any adjective it gives the opposite meaning — e. g. *nagorok* = good, *nagorok pitcûk* = bad; *ellopa* = cold, *ellopa pitcuk* = warm, etc. Combined with *picuktu* it gives such useful phrases as *imek picuktu pitcûk*, meaning "he does not want water," or, "it is water-tight." *opinera sila ellopa picuktu pitcûk*, in summer the weather does not want to be cold; i. e. is inclined to be in general warm.

**pŏk'-sak** (Esk. *pŏk*, a bag, English "sack," a bag; literally therefore a "bag-bag" or "sack-bag"), bag, sack; any vessel, e. g. *kapi poksak*, coffee-pot.

**pŭb'-laun** (Mac. Esk. *pŭb-laun*), baking-powder. An interesting variant is sometimes heard — *pŭb'-lau-lŭ*. This evidently comes from the fact that when an Eskimo gets a sack of flour he always wants baking powder also, and therefore attaches the suffix *-lŭ* to his word for baking-powder. This has been taken by the trader to be a part of

the word itself, whereas the Eskimo's *pūb-laun-lu* meant "baking-powder also."

**pûn''-nĭ pûn'-nĭ** (Kanaka?), sexual intercourse.

**sĕ'-kĕ-nĕ** (Mac. Esk. *sĭr-kĭn-nŭrk*), sun.

**sĕ-kĕ-nĕ-ō'-ra** (Mac. Esk. *sĭr-kĭn-nĕr-ō'-yak*, likeness of the sun, therefore, watch, clock), watch, clock.

**ca-bak'-to** (Pt Barrow Esk. *ca-vûk-tok*, he works), to work, make, do, etc.

**cag'-lū** (Mac. Esk. *cag-lū(k)-tu'-yu-ak*, he tells lies), to lie, a lie, a liar.

**cañ'-a-rū** (Pt Barrow Esk. *cwûñ-a-rok*, he is strong), strong — as rope, coffee, a man, a dog, etc.

**ca'-vĭk** (Mac. Esk. *sa'-vĭk*), a knife, iron.

**ca-vĭ-kō'-ra** (Mac. Esk. *ca-vĭ-kō'-yak*, rice — derivation uncertain; perhaps from *ca'-vĭ-ĭt*, the scrapings (like sawdust) from wood or ivory when scraped with a knife), rice.

**cĭ-nĭg'-a-vĭk** (Mac. Esk. *cĭ-nĭg'-a-vĭk*, sleeping place), bed.

**cĭ'-nĭk** (Mac. Esk. *cĭ-nĭk'-tu-ak*, he sleeps), to sleep, asleep, sleep. *cinik tautuk*, to see while sleeping, i. e. to dream.

**cō-pûñ** (Pt Barrow *cūk'-pūn*, a gun), a gun, a shotgun.

**cū'-na** (Mac. Esk. *cū'-na*, what, which,— used ordinarily of dead things, as distinguished from live ones), which, what, where, whither. *cuna elekta illuit?* where are you going? *cuna picuktu?* what do you want?

**sī'-la** (Mac. Esk. *sī'-la*, the outdoors), weather.

**sī-la-ta-ni** (locative of *sī-la* + *-ta-*, in the outdoors, in the outside), outdoors, outside. *ababa mûgwa sīlatani kaili*, tell them to come out; *iglu silatani*, (it is) outside the house.

**sĭ-na'-ni** (Inland Esk. *sĭ-na'-nĕ* (?), Pt Barrow *sennera'a*, by the side — *sĕn-nĕ-ra-ne* (locative) by his side), by the side of, alongside, along. *nuna sinani kamotik elekta awoña*, I traveled by sled along the coast.

**sĭs'-sĭ-rū** (Pt Barrow Esk. *sī'-sī-rok*, it is hard), hard, stiff; brittle (although for this last meaning is usually used *kilamik navikta picuktu*, it wants to break quickly).

**sū'-lĭ** (Pt Barrow Esk. *sū'-lĭ*), more, also, besides. *kapi suli picuktu awoña*, I want coffee also; or, I want some more coffee.

**taĭ'-ma** (Mac. Esk. *taĭ'-ma*, it is finished, it is enough. *awoña artegi taima?* is my coat finished? *kaukau taima awoña*, I have eaten enough.

**tai'-man-na, dai'-man-na** (cf. *tai-ma*), this way, so. *awoña tai'manna illipsi cabakto picuktu*, I want you to do it this way.

**ta'-kĭ-rū, ta'-kĭ-rū**-a (Mac. Esk. *ta'-ki-yū-ak*), tall, long.

**tañ-ak** (Pt Barrow Esk. *tûñ-ak*, whiskey), whiskey, alcohol. [Probably originally of Kanaka or other non-Eskimo origin.]

**tar'-rĭ-ū, tar'-rĭ-ōk** (Mac. Esk. *tar'-ri-ōk*), salt, the sea.

**tau'-tuk** (Pt Barrow, Inland, and West. Esk. *tau-tûk'-tok*, he sees; Mac. Esk. *ta'-kū-yū-ak*, he sees. This stem is found also at Pt Barrow in occasional use, as *ta-kū-va*), see, visit, hunt, etc. *tuktu tautuk picuktu awoña*, I am hunting caribou: lit. I want to see caribou.

**tĕ-rĕ-gan'-dī-a, tĕ-rĕ-gan'-dĕr** (Mac. Esk. *tē-lē-gan'-ya*, white fox; Pt Barrow form, *tē-rē-gē-nī-ak*): white fox, fox.

**tĕ-rĕ-va** (probably from some West. Esk. form of Mac. Esk. *ta'-dju'-va*, there! there it is!), there! that is enough! enough, finished.

**tĭg-lar-au'-tan** (Mac. Esk. *tĭñ-il-ar-au'-tak*), sail. *tiglarautan cobakto* (according to context), hoist sail, lower sail, reef sail; to sail (a boat or ship); also to rig a boat or ship with sails, to sew sails, etc.

**tĭg'-lĭk** (Mac. Esk. *tig-lik-tu-ak*, he steals), to steal, to take; a thief. *tĭglik awoña picuktu pitcûk*, I don't want to steal, I don't want to take it, I don't want to cheat you (in a trade).

**tĭ-pĭ** (Mac. Esk. *tĭpĭ(k)*, smell—noun form), to smell, to stink; it smells, stinks. Cf. *oktcûkluk*.

**tŏks'-ĭ-pûk** (Pt Barrow Esk. *tak'-sĭ-pûk*, a dark-skinned man), negro.

**tūk'-tū** (Mac. Esk. *tūk'-lū(k)*, caribou), caribou, deer.

**tūk'-tū-lūk** (Mac. Esk. *tūk-tū-qlūk*, pork, bacon; i .e. bad deer meat), pork, bacon.

**tūk-tū-pûk** (Mac. Esk. *tūk-tū-pûk*, horse, cow, etc.), beef.

**tū'-pĕk** (Mac. Esk. *tū-pĕk*), tent.

**tū-sa'-ra** (Mac. Esk. *tū-sar'-yu-ak*, he hears), understand, know; seldom if ever used for "hear" except in combination, as *innuk ababa tusara awoña*, I know that a man is talking (therefore I hear a man talking).

**ū'-blū** (Mac. Esk. *ūb'-lūrk*), day, daylight. *ū'blū kaili pûgmûmmi*, it is just dawning.

**ū'-lū** (Mac. Esk. *ū'-lū*, the typical Esk. woman's knife), an ulu, or woman's knife.

**ūñ'-a-cĭk''-cū** (Mac. Esk. *ūñ-a-cĭk-tū-ak*, it is far off), far. *kimmik nagorok pitcûk uñacĭksu elekta picuktu pitcûk awoña*, when I have poor dogs I don't like to make long trips.

SYSTEM OF COUNTING

| | JARGON | MACKENZIE ESKIMO |
|---|---|---|
| 1. | *a-tau'-sik* | *a-tau'-tcĭk* |
| 2. | *ma'-lo, mal'-lĕ-rō* | *mal'-lĕr-ōk* |
| 3. | *pĭñ'-a-sūt* | *pĭñ-a-tcūt* |
| 4. | *sĭs'-sa-mat* | *sĭs-sa-mat*, or *sĭ'-ta-mat* |
| 5. | *tal'-lĭ-mat* | *tal'-lĭ-mat* |
| 6. | *tal'-lĭ-mat a-tau'-sik* | *ax-rĭ-va-nĭ'-lĭ-xĭt* |
| 7. | *tal'-lĭ-mat malo*, or *mallero* | *mallerok axrĭvaniligit* |
| 8. | *tal'-lĭ-mat piñasut* | *pĭñatcut axrĭvaniligit* |
| 9. | *tal'-lĭ-mat sĭssamat* | *kō-lĭñ-ĭl'-lū-at* |
| 10. | *kōl'-lĭt* | *kōl'-lĭt* |
| 15. | *ak-kĭ'-mī-a* | *ak-kĭ'-mī-ak* |
| 20. | *akkĭp'ĭa*, or *ĭn-nū-ĭn'-nak* | *ĭn-nū-ĭn'-nak* |
| 40. | *malo akkipia* | *mallerok akkipia* |
| 400. | (not used) | *innuinnak akkipiak* |

POINT BARROW, ALASKA,
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# CALIFORNIA BASKETRY AND THE POMO

By A. L. KROEBER

A RECENT account of the basketry of the Pomo Indians of California by Dr S. A. Barrett is perhaps the most complete study of the basketry of any North American tribe yet published.[1] It both offers opportunity to examine the relations existing between the Pomo and other tribes as regards this art, and supplements and illustrates the conclusions that can be drawn from other studies.

## Materials

The materials used by the Pomo in basket making number ten or twelve, but the majority of these are used rarely or for special purposes or in restricted districts. The materials whose use is at all common or of general consequence are five. Of these only one is used as warp in either twined or coiled ware. This is willow. The woof materials are four: the root of a sedge, *Carex*, the bark of the redbud, *Cercis*, the root of the bulrush, *Scirpus*, and the root of the digger-pine. Of these the sedge is the most important, furnishing, as willow does for the warp, woof of both coiled and twined baskets. The redbud furnishes red patterns and is employed chiefly in twined weaves. The bulrush root, after being dyed, provides patterns in black and is used almost entirely in coiling. Digger-pine root fibers are employed principally for the woof of coarse twined baskets.

It shows the influence of convention and habit on technique, that practically all the basketry of the Pomo is made in these five materials, although an occasional different use shows that they possess knowledge of other plants and although their habitat produces many other species which would be serviceable, as demonstrated by the employment of these in regions where different technical habits prevail. The other Indians of California evince a similar

[1] S. A. Barrett, Pomo Indian Basketry, Univ. of Cal. Publ. in Am. Arch. and Ethn., VII, pp. 133–308, pl. 14–30, Berkeley, 1908.

restriction, voluntary it might be called, of their choice of basket materials.

In northernmost California, where only twining is practised, the warp is almost universally hazel, and the woof is root-fibers of conifers, — pine, redwood, spruce, or other species being used according to local distribution. The ornamentation of this basketry consists of a glossy white overlay, which is the shining grass *Xerophyllum tenax*. For patterns in black the stems of the five-fingered fern, *Adiantum*, are used, and for patterns in red, alder-dyed fibers from the stem of a large fern, *Woodwardia*.

A description given by Dr Dixon[1] of the materials used by the northern Maidu also shows characteristic limitation. The northern Maidu make large carrying baskets in the twined technique of northern California, and use for this purpose the same materials. The great bulk of their basketry is coiled, and only two principal materials, willow and redbud, are used. Both of these are employed for both foundation and wrapping. The outer bark of the redbud gives red patterns.

Among the Cahuilla, Luiseño, and Diegueño of southern California the ordinary materials are only three. For the foundation a grass, *Epicampes rigens*, is used. The wrapping consists of either a reed, *Juncus*, or of sumach, *Rhus*. Twined basketry, which is subsidiary, is made entirely of reed.

Information from other tribes is incomplete, but as there is nowhere any indication of a greater variety of materials used, it appears that the specialization followed by the Pomo is the rule and not exceptional.

### Techniques

In the matter of weaves it appears that the Pomo are anomalous in California in practising an unusual variety of technical processes. The total number of distinct processes is perhaps not greater among the Pomo, but whereas other tribes employ regularly and frequently only one or two of the techniques with which they are acquainted, the Pomo practise five processes abundantly and often make baskets of one kind in several weaves.

[1] R. B. Dixon, The Northern Maidu, Bull. Am. Mus. Nat. Hist., XVIII, 145, New York, 1905.

The California Indians belong to two groups according as they follow twining or coiling processes of making baskets.[1] There are very few tribes that use both types of technique. The narrow limitation in the employment of materials is therefore paralleled by a limitation of technical processes.

All the Indians of northernmost California, the Tolowa, Yurok, Karok, Hupa, Wiyot, the Athabascan tribes of the middle drainage of Eel river, the Shasta, Northern Wintun, Achomawi, Atsugewi, and Modoc, make only twined work. Generally speaking all tribes to the south of these may be characterized as makers of coiled basketry. There is however a distinction. While the tribes using twining know nothing of coiling, the tribes that employ coiling also twine to some extent. This difference is inherent in the nature of the two processes. The coiled basket is stiffer, closer, and requires much more labor. It lends itself with difficulty to the construction of openwork textiles, such as are desirable or necessary for many purposes. A fish-trap in coiled basketry is practically impossible. A conical carrying-basket can be made as well in coiling as in twining; but such a basket being intended for fire-wood and similar loads, an openwork construction is in every way as serviceable as a close coiled one, besides being much lighter and readily made in one tenth the time. Even among tribes inclined toward coiling, twining is therefore employed for many implements of household usage and for those in which either an open or a ready construction is desired. Carrying-baskets, weirs and traps, seed-beaters, winnowers, and baby-carriers are usually twined by tribes whose more characteristic basketry, such as vessels for water, food, storage, and cooking, is coiled. In short, twined weaves are adequate for most forms and purposes, so that tribes whose cultural circumstances have led them to lean toward twining usually employ no other process. Coiling is not applicable to all purposes, and tribes with a specific bent toward this technique are therefore compelled to use also twining, or other processes, for certain implements.

The tribes of whom coiling is characteristic held all of southern

[1] In those parts of America where plaiting and twilling are followed at all extensively, they appear to tend to supplant twining or coiling, rather than to exist beside them.

and central and part of northern California, much the larger part of the state. The line of separation from the northern region of twining is as follows: In the east it is the boundary between the Maidu and the Achomawi and Atsugewi of the Pit river valley. The Yana employed both processes, their twined ware being of the northern type, their coiling resembling that of the Maidu, but with greater coarseness and crudeness. The majority of Yana baskets that have been collected, and the best made, are twined, so that this is likely to be the typical and best accultured Yana technique. The northernmost Wintun twine, the southern Wintun coil, but the boundary is not precisely known. In the Coast Range the line of division separates the Yuki, who are distinctly a coiling tribe, from the Wailaki. The Wailaki make a crude form of the typical basketry of northern California. Occasional coiled pieces of Yuki character occur among them, but are in great minority and clearly due to Yuki influence.

It is of particular interest that the Pomo, who fall well within the limits of the southern group, hold the two techniques in balance. They cannot be included among the border tribes subject to two influences, for to the north of them are the Yuki, who are as clearly a coiling tribe as any. The twined basketry of the Pomo is also entirely different from the twined basketry of northern California. It must therefore be set down as an independent development, which has flourished side by side with the development among the same people of coiled techniques, without either process greatly influencing the other.

According to Dr Barrett, the coiled basketry of the Pomo is about equally divided between one-rod and three-rod foundations. Single-rod foundations are rare in California, being otherwise found only among the Miwok and Washo. A few pieces have also been obtained among the Yokuts and Shoshoneans adjacent to the Miwok. The Maidu, most commonly the Miwok and Washo, and probably the Wintun where uninfluenced by the Pomo, employ three-rod foundations. The Yokuts and the tribes of Southern California use a multiple foundation. The Yuki use a rod and welt foundation. Neither the rod and welt nor a multiple foundation ordinarily occur among the Pomo.

Five twined weaves are practised by the Pomo: plain twining, diagonal twining, lattice twining, three-strand twining, and three-strand braiding. The two three-strand weaves are not used to make entire baskets, except occasionally in openwork. The characteristic twined weaves therefore are the plain, diagonal, and lattice. Of these plain twining is most frequent, but the two other processes are by no means rare, and, especially in well-finished baskets, dispute the palm with the simpler technique. Lattice twining — which is almost a combination of coiling and twining — seems to be confined entirely to the Pomo, if we except one or two small adjacent groups, such as the Huchnom, of unrelated linguistic origin but of Pomo culture. Diagonal twining, which is a characteristic Shoshonean process, is of secondary importance in California outside of the Pomo. A sporadic Yurok basket made entirely in this weave has been described.[1] The University of California museum contains also one or more pieces each from the Wiyot, Athabascans of southern Humboldt county, Yana, Chumash, and Mohave, though the normal weave of all these tribes, except possibly the last, is simple twining. The Chemehuevi, who are Shoshoneans, make caps and carrying baskets; and the Shoshonean Mono, with their neighbors the Miwok, Yokuts, and probably Washo, make many or most of their winnowers, beaters, carriers, and cradles in openwork and half-openwork diagonal twining. Among all these tribes, however, diagonal twining is not employed for ordinary baskets as by the Pomo. The Pomo have developed a distinctive type of pattern for their diagonal-twined baskets, which in its general diagonal arrangement differs from the usually horizontal arrangement on plain-twined baskets.[2]

The plain-twined Pomo basket differs radically from the twined basket of northern California. It is either nearly flat or quite deep. The typical basket of northwestern California, while its walls are vertical, is comparatively shallow. The Pomo never use the overlaying which is the sole means of producing patterns in northern California. Pomo designs are normally in redbud. Designs in northern California are in white on a neutral background, or in black

[1] Univ. Calif. Publ. in Am. Arch. Ethn., II, 110, pl. 17, fig. 2, 1905.

[2] Barrett, op. cit., pl. 16, 17, 22.

or red or both on a background of overlaid white. The texture of the two wares is thoroughly different. The distinction is apparent even in details, such as that the northern people trim their warp ends off flush with the upper course of woof twining, whereas the Pomo habitually allow them to project evenly for a short distance. On the whole Pomo twining is firmer and more closely set than that practised in northern California, a difference which may perhaps be ascribed to the experience which every Pomo woman has in the necessarily close technique of coiling.

As illustrating the Pomo balance between different weaves, and the apparent desire to maintain one beside the other instead of permitting one process to develop to the exclusion of others, it appears that conical carrying baskets are made both in plain twining and in diagonal twining; storage baskets in plain twining, lattice twining, and diagonal twining; various baskets of the same shape and use in both one-rod and three-rod coiling; and cooking baskets and flat baskets in plain twining, diagonal twining, and lattice twining.

Dr Barrett describes also Pomo wickerwork. The use of this is confined to handled seed-beaters of circular form. Wickerwork is comparatively rare in North America, though there are well-known forms in the Southwest. A wickerwork seed-beater from the northwestern Maidu is described by Dr Dixon.[1] This piece is from Butte county, in the original habitat of the Maidu. A number of Maidu from this region have long lived on Round Valley reservation, in close association with Pomo of the northern and eastern dialectic divisions, and some of these Maidu have returned to their old home. It is therefore possible that the specimen in question is due to modern Pomo influence even though collected on Maidu soil. If, however, as seems more likely, it is an old Maidu type, the practical identity of the Maidu and Pomo wickerwork forms makes it highly probable that the Wintun in the intervening territory also employed this technique in the seed-beater. In that case wickerwork would have a wider distribution in California than heretofore believed. The Mohave and Diegueño use soft-warped stiff-woofed wickerwork in the hoods of cradles.

[1] Bull. Am. Mus. Nat. Hist., XVII, 188, fig. 47a, 1905.

### Direction of Progress in Manufacture

In twined Pomo baskets the general course of the woof turns from right to left, as one looks at the basket from above. Dr Barrett's explanation is illumining. In twining, the long projecting warp rods at the top render it necessary for the weaver to hold the bottom of the basket toward her. The left hand firmly grasps the warp and keeps in place the just inserted woof-strands, while the right hand manipulates the twining of the pliable woof. The progression is therefore to the weaver's right, which corresponds to the left as one looks into the basket.

The same direction of the twining woof is followed practically all over California, as by the Yurok, Karok, Hupa, Tolowa, Wiyot, Wailaki, Modoc, Wintun, Yana, Achomawi, Yuki, Wappo, Miwok, Yokuts, Mono, Chemehuevi, Chumash, Cahuilla, and Luiseño. The only exceptions found are the rude openwork Diegueño baskets, which twine in the opposite direction from the identical Cahuilla and Luiseño pieces; the close-woven flat baskets of the Yurok-Hupa territory; part of the baskets of this type made by the Modoc; and certain flat coarse openwork baskets of the Wappo. It is evident that if a basket is held reversed while in manufacture, with the bottom up or turned away from the weaver, the course of the twining when it is finished will be the reverse of the usual while the process of manipulation remains the same. The flatter the basket, the less difference does it make, in working on it, which side is held above, and the less reason is there, when it is finished, to regard one surface as specifically the inner one. In fact an essentially flat basket with a certain amount of curvature can be held and worked like others, and when finished turned inside out by a thrust in the middle. This is actually done by the Yurok. With the exception of a few unexplained Diegueño pieces, the twining of California therefore always turns from right to left, as one looks into the basket, or progresses from the maker's left to right, and contrary cases are only nominally or apparently such.

Outside of California, the direction of twining seems to be usually the same, as among the Apache and in the Puget Sound region. The baskets of the Alaska Eskimo, the majority from the Aleutian islands, and a minority among the Haida and Tlingit,

however turn abnormally or clockwise. A number of baskets from the Haida-Tlingit area turn one way on their flat bottom, and in the opposite direction on their sides. It is interesting to note that Aleut baskets are described as habitually, and Haida baskets sometimes, suspended bottom up in manufacture; so that the abnormal or reverse direction of twining in this northern region seems to be the result merely of a reversed position of the basket, the weaver following the usual manipulation in her work. It follows that Dr Barrett's explanation of the direction of twining is to be accepted as of general application. It also follows that the absolute uniformity of this direction among most tribes argues for a very rare or weak natural development of left-handedness, or its almost total suppression by right-handed custom. No apparatus being required in weaving, and the product being identical whatever the direction of the twining, there is every inducement for a left-handed woman to work as is natural to her. It seems as if tribal habit or blind imitation influenced the Indian basket-maker as much and as unreasonably as it influences us in writing, sewing, riding, and shooting.

The direction of Pomo coiling is the reverse of that obtaining in twining. Dr Barrett explains this fact as also due to the process of manipulation, the left hand being engaged in holding the loose end of the warp, toward which the right advances the woof. His suggestion as to the reason for the direction of coiling is however perhaps less compelling, since the nature and position of the single projecting warp are such as to allow the worker more readily to hold the bottom of the basket either toward her or away from her. The former is perhaps the more natural position, especially in baskets approaching a spherical shape, and the corresponding direction of the coil is the prevalent one in California.[1] Nevertheless nearly all tribes except the Pomo coil at least some ware in the opposite direction, and in some regions outside of California this opposite direction is the rule. The position of the basket while in manufacture is probably the sole cause of the difference in coil-direction; yet it is evident that if such is the case mere industrial habit or

[1] Univ. Calif. Publ. in Am. Arch. Ethn., VIII, 50, 1908.

tribal invention must largely determine this position, since with the Maidu and Miwok only flat baskets, with the tribes of central and southern California only spherical or constricted baskets, with the Yuki all baskets of whatever shape, and with the Pomo no baskets, progress contra-clockwise.

### Decoration

The general scheme of pattern arrangement followed in Pomo baskets seems to depend in the main on the weave employed. In twined baskets a horizontal or banded arrangement is by far the most common, while a diagonal arrangement occurs in a minority. Dr Barrett estimates the average frequency of horizontal, parallel diagonal, and crossing diagonal arrangement at 70, 25, and 5 per-cent. As has been said, the horizontal arrangement occurs usually in plain twining and lattice twining, while the diagonal arrangement is characteristic of the diagonal-twined weave.

In coiled baskets there is a much greater variety of arrangement. Dr Barrett gives the following proportions: horizontal, 40; parallel diagonal, 30; crossing diagonal, 10; vertical, 15; individual or separate groups of patterns, 5. It is apparent that these proportions are not at all related to those obtaining in twined basketry. Considering the parallel diagonal and crossing diagonal arrangements as fundamentally the same, it may be said that diagonal and horizontal dispositions of designs are of about equal frequency in Pomo coiling, and that a vertical or individual arrangement, while less common than either, is also characteristic.

The typical Maidu pattern arrangement is diagonal, either parallel, crossing, or zigzag. In southern and central California the prevailing arrangement is horizontal, a secondary one vertical, a diagonal arrangement of any sort being uncommon. As these are regions of coiling, it appears that pattern-arrangement is not altogether dependent on technical motives. The shape of ware is undoubtedly a potent factor. In the case of twining this is evident. In northwestern California, where baskets are mostly low, a diagonal arrangement would not be effective, and a horizontal arrangement prevails; in northeastern California, where technique and materials are the same, baskets are normally higher, and a diagonal

disposition is customary.[1] Nevertheless there are many instances where the arrangement of patterns is clearly the outcome of neither technique nor shape, but of esthetic convention.

As regards the Pomo, it is almost certain that independently of technical influences and of the factor of decorative area as determined by shape of the basket, a greater variety of pattern arrangements is found than with other tribes.

In several other respects Pomo basketry shows specialization. According to Dr Barrett the Pomo were in aboriginal days the only California people to attempt the complete ornamentation of baskets with feathers. Feather decoration is found as far south as the Yokuts, but the feathers occur only on part of the surface of the basket. Some of the tribes immediately adjacent to the Pomo, such as the Wappo, Yuki, southern Wintun, and coast Miwok, used feathers, but never covered entire baskets. Owing to trade demands they have now in some cases learned to do so, but their work is still inferior to that of the Pomo.

The Pomo are perhaps also unique in never completely encircling a basket with a design. If the pattern is a horizontal band, a break called dau, ham, or hwa must be left in it. If this is not done it is believed that the maker will be afflicted with blindness. This break in the encircling pattern is familiar from the Southwest, but has not been reported from any other California tribes, many of whom, such as the Hupa, Yurok, Yokuts, and Cahuilla, frequently employ continuous and uniform bands of design. Most flat Yuki baskets with a pattern of simple encircling bands, but usually no others, show a break in the design, but its significance has not been reported, and it does not seem to have been the same as that of the dau.

A peculiar practice of the Pomo is also to insert in a coiled basket a few wrappings of the orange-colored quills of the yellow-hammer, as a preventive charm, in all cases in which a woman works on a basket during her menstrual period.

Finally may be mentioned the shaiyoi or initial design, the introduction of which is also connected with religious beliefs.

[1] In northwestern California also, storage baskets and other tall forms frequently show diagonal and even vertical pattern arrangements.

So far as known, the Pomo and the adjacent tribes of the same culture are the only ones among whom any basketry is made by men. Men make fish traps and weirs, baby-carriers, coarse openwork baskets for carrying and storage, and shallow openwork forms. In general most openwork is made by men. Dr Barrett notes that all close-woven baskets are made with a downward turn of the woof-strands, and most openwork baskets are made with an upward turn. As the men make no close-woven baskets, and the women few in openwork, it may be said in general terms that the men employ one direction and the women another in turning the woof in twining.

### Names of Designs

In the matter of interpretations of names attached to designs, Dr Barrett's work is particularly full. He obtained explanations of more than eight hundred designs, appearing on some three hundred baskets. As most of these patterns were explained by a number of informants, the total number of interpretations was several thousand. Such a mass of information on this phase of basketry has probably never before been gathered among one group of people, so that the conclusions become of unusual significance. If anyone still cherishes the belief that patterns were put upon baskets by the California Indians from religious or symbolic motives, or that their significance is ceremonial or poetical, the idea will be dispelled by a glance at Dr Barrett's data, in which the thousands of monotonously commonplace and concordant names are unbroken by even a single instance of symbolic interpretation.

Among Pomo speaking three different dialects or languages, Dr Barrett encountered 54 different names of designs. Omitting 2 that are doubtful and 6 that are representations of objects introduced by Europeans, there remain 46. Ten of these are pairs, *deer-back*, for instance, being the name in one dialect of a design which in another dialect is called *wild-potato-forehead*. Of the 46 undoubted aboriginal design names only 33 occur in the northern dialect, 24 in the central, and 22 in the eastern. Twenty of the 46 names are however rare. Of the 26 in common use, 20 are found in the northern dialect, 17 in the central, and 14 in the eastern. The number of common elementary design names among any one group of Pomo people is therefore about 15 to 20.

This result agrees with determinations made among other tribes of California. Among the Yurok there are only about 18 names in customary use, though the addition of designations that are rarely employed brings the total to about 30. These rare names are perhaps in part individual interpretations, in part survivals of obsolete names, and in part introductions of terms which belong to neighboring tribes and have not yet taken firm root. Among the Hupa and Karok the number of names appears to be about the same. The total of design names, common and rare, found among the three northwestern tribes, is about 45, or practically identical with Dr Barrett's total for the three Pomo groups. The Yurok, Karok, and Hupa speak languages that are entirely unrelated, but their territory is more restricted than that of the three Pomo divisions, and their culture is at least as uniform. Conditions are therefore comparable.

Dr Dixon encountered about 40 different design names among the Maidu, who belong to three divisions which are linguistically about as divergent as the three Pomo groups. Their territory is more extensive and their environment and culture at least as diverse. Dr Dixon's total therefore also agrees well with Dr Barrett's. It seems probable that if only the design names in ordinary use among one division of the Maidu had been listed by him, the number would have fallen between 15 and 20.

Dr Barrett classifies the 26 common names of Pomo design elements as follows: names of animals and parts of the body, 12; plants, 2; inanimate objects, natural and artificial, 4; geometrical, 4; miscellaneous, 4. It should be observed that in many cases names of animals and parts of the body are combined. *Deer-back*, *turtle-neck*, and *quail-plume* occur, but neither *deer*, *turtle*, and *quail*, nor *back*, *neck*, and *feather* alone are found. This is in accord with the non-realistic and unsymbolic interpretation of the designs. Apparently names suggested by the designs have been applied to them. If there had been an original attempt at representation it is almost certain that deer, birds, turtles, horns, or feathers would have been shown and so named. No one, civilized or uncivilized, could have any motive for picturing the back of a deer or the neck of a turtle.

The relative frequency of these classes of names is about the

same among the Pomo as among other California tribes. Almost everywhere names denoting animals or parts of the body are most numerous. The principal divergence occurs in northwestern California, where spatial and dynamical ideas, corresponding to Dr Barrett's geometrical names, are relatively more frequent, and among the Maidu, where names derived from plants are most numerous after names of animals and body parts.[1] Spatial or geometrical terms, such as *zigzag*, *striped*, and *spotted*, occur among all tribes, and are often of frequent usage. That they are not proportionately as numerous with the Pomo as among the northwestern Indians, is probably due to the fact that by the Pomo most conceptions of space and position are expressed by qualifying additions to the elementary design names.

Characteristic animal design names among the Pomo are *deer-back*, *deer-teeth*, *turtle-neck*, *turtle-back*, *goose-excrement*, *grasshopper-elbow*, *killdeer-eyebrow*, *quail-plume*, *crow-foot*, *bear-foot*, *bat-wing*, and *sunfish-rib*. Names of animals not connected with parts of the body are much less numerous and describe only small animals: *ant*, *butterfly*, *mosquito*, *starfish*, *water-snake*. Characteristic geometrical terms are *zigzag* or *crooked*, *wavy*, *spotted*, *dot*, *small figures*, *little pieces*. Typical names of objects are *arrowhead*, *string*, *stretcher*, and *tattoo*.

In usage, however, such names of designs are rarely employed alone. They are almost always combined with a descriptive or qualifying term, such as *barbed*, *pointed*, *short*, *round*, *large*, *downward*, *bulging*, *blank*, *white*, *half*, *both*, *single*, *imperfect*, *resembling*. These qualifying terms are nearly as numerous as the elemental design names. Dr Barrett classifies them according as they relate to form, direction, position, size, color, number, and quality.

The design name of the Pomo, whether qualified or used alone, however describes only the unit or element of a pattern. It is a simple figure of a certain shape. The pattern may consist of a repetition of this element, or of combinations of two or more elements. The pattern and the design element must be sharply distinguished.[2]

[1] Univ. Calif. Publ. in Am. Arch. Ethn., IV, 154, 1905.

[2] For the distinction between pattern andde sign element, with particular reference to their names, among the tribes of northern California, see Univ. Calif. Publ. in Am. Arch. Ethn., IV, 155, 1905.

In exact usage the Pomo always distinguish them. The names that have been discussed designate elements. Pattern names are almost always longer and more complex. This is not only because of the qualifiers of names of design elements, but because in many cases the interrelation of several elements in a pattern is made clear. There is therefore a third class of terms which may be described as qualifiers of pattern names. Of these Dr Barrett has found 44, though a number of these occur in only one or two dialects of the three examined. Among the most common are : *crossing, meeting, collected, on both sides, connected, close in a row, and, near, on, among, along, in the middle, tied, scattered, separated, leading, following.*

The typical pattern name among the Pomo is therefore quite complex, and at the same time exactly descriptive of the pattern to anyone acquainted with the significance of the names of design elements, qualifiers of design elements, and qualifiers of patterns. Typical names are :

*Arrowheads in-the-middle zigzag stripe.*
*Design empty in-the-middle ants close-in-a-row.*
*Deer-back arrowhead crossing.*
*Arrowhead-slender band.*
*Water-snake and arrowhead-barbed.*
*Ants arrowhead crossing in-the-middle.*
*Spotted in-the-middle string stripe.*
*Wild-potato-forehead on-both-sides arrowhead.*

It is evident that, allowing for convention in the use of the terms designating elements and their relations, these pattern names are sufficient to convey an accurate description of any pattern. A Pomo woman fairly conversant with the art of basket making, and who like every member of her tribe sees baskets in daily use in every household, could make or duplicate any native pattern described to her. Such a practical purpose, and not any religious or symbolic motive, and not even to any considerable degree an artistic impulse, seems to be at the base of these design and pattern names. In other words they are conventional names of conventional figures, corresponding to our diamond, horseshoe, cross, star, crescent, fleur-de-lys, meander, and egg-and-dart. If there is a difference between the Pomo and ourselves, it is that among the

Pomo, so far as can be observed, these conventional figures give no evidence of having or of ever having had a symbolic significance. Among ourselves heraldry and religion have in some cases read deep significance into simple figures, and in other instances have given to symbols a popularity which in turn has led to their being employed for purely decorative purposes. It is however to be observed that the designations even of conventional symbolic figures are not symbolic but descriptive. The fleur-de-lys is named for the flower, not after the dynasty of which it is the emblem. The horseshoe itself, not the good luck which it typifies, gives name to the figure. The Pomo in their basket decoration are less inclined to symbolic or religious interpretation than we are in the ornamentation of our architecture, implements for household use or display, and dress. But in both cases there is no evidence that any decorative figure originated directly from a creative symbolic impulse. Symbolism can only interpret what is already given.

The development of subsidiary qualifying terms was probably carried farther by the Pomo than by other California Indians. It is not possible to speak with certainty on this point, no inquiries even approximately as extended as those of Dr Barrett having been made elsewhere. To a casual inquirer Pomo women give only the name of the most conspicuous element in a pattern, and in comparison with Dr Barrett's painstaking effort inquiries among other tribes have been casual. It is not unlikely that an equally thorough investigation elsewhere would reveal something of the same system of descriptive adjuncts as among the Pomo. At least some approaches are found in northwestern California, where several subsidiary qualifying terms have been recorded, such as Yurok, Karok, and Hupa *small-in-the-middle, large sharp-teeth, sitting-in-the-middle, sharp different, together, it-encircles, tataktak ascending, snake-noses on-top-of-each-other, they come together, worm goes-round, one-on-the-other-its-scratches.*[1] It is however in any case likely that descriptive qualifiers are more developed among the Pomo than among other tribes because Pomo patterns are in the main more complex.

[1] Univ. of Calif. Publ. in Am. Arch. Ethn., II, 126, 127, 133, 137, 138, 139, 141, 142, 1905.

## General Conclusions

All in all it appears from Dr Barrett's careful study that the basketry of the Pomo is unique in many aspects. It shows no connection with the basketry of northernmost California and Oregon. It possesses very little relation with the basketry of the Yuki immediately to the north. It is quite different from the basketry of the Maidu to the east. Nor does it show any direct contact with the industries of the tribes of central and southern California. The Pomo are the only California people among whom the arts of twining and coiling basketry are approximately in balance. They are nearly the only people among whom different forms either of coiling or of twining are employed side by side for similar or even identical purposes and with about equal frequency. They regularly and abundantly practise a greater number of radically distinct technical processes of basket-making than any other tribe. They are the only people in the state among whom men have a share in the making of baskets, among whom the symbolic break in the design and symbolic insertion of yellow-hammer feathers were practised, or the symbolic initial design was used. They carried the art of ornamenting baskets with shell beads and feathers to a much higher perfection than any other group. They were either alone in using wickerwork, or shared the technique with but a few tribes. Their general disposition of patterns on the surface of baskets displays a greater variety than is found elsewhere, both in respect to the relation of such arrangement to technical processes and irrespective of it. They show a wealth of subsidiary terms descriptive of the form, position, and relation of design elements and their combination in patterns, to which but scant parallels have as yet been found elsewhere, and which it is unlikely any other California people possess in the same degree. In short, it is evident that the art of basketry in all its phases underwent an independent, special, and uncommon development among the Pomo, which is displayed in an unusual wealth and variety of industrial, technical, and artistic functions.

On the other hand it appears that certain traits are common to the art of basketry among all the tribes of California. Among

the most conspicuous of these features are the use of only a small proportion of available materials; a selective specialization in certain types of technique to the exclusion of others; a system of ornamental pattern arrangement determined by esthetic convention or artistic history as well as by technique and shape of the decorative field; a close restriction of the number of names for pattern elements; and a complete absence of religious or symbolic significance from the decorative designs. The conclusion which these facts perhaps most impress, is the tremendous predominance of unmotived custom and habit over conscious utilitarian, artistic, or religious purpose.

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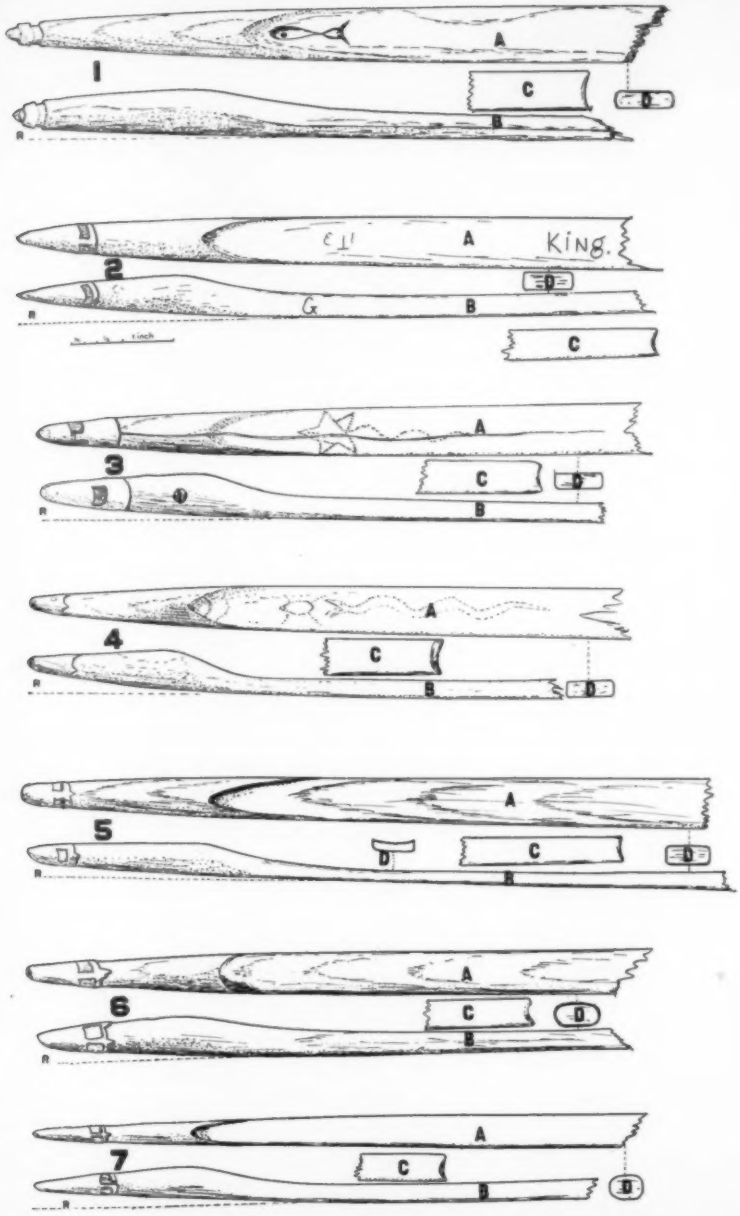
# SNOW-SNAKE AS PLAYED BY THE SENECA-IROQUOIS

By ARTHUR C. PARKER

THE following notes on the game of snow-snake as played by the Seneca-Iroquois were recorded during the winter of 1905–06, at which time the writer was engaged in making ethnological studies among the various Iroquois tribes for the New York State Library and the New York State Museum.

With the male Seneca snow-snake is the most popular outdoor winter pastime, finding equal favor with the Christian element and the "pagan" party. Missionary effort has been directed toward discouraging the sport, because of the gambling which seems an indissoluble part of it. The game is a simple one, and well known to ethnologists, the aim being to throw a long smooth stick, called a snake, *gawasa*, through a trough in the snow a greater distance than one's opponent.

The snow-snake is a smooth, polished, flexible stick, from five to nine feet in length. The average stick is an inch broad at the head, and tapers down to nearly half an inch at the tail or finger end. In thickness it tapers from half an inch in the middle to a quarter of an inch at the tail. The head, *gagon'da'ge*, is conical in shape, or approximately so, and is usually an inch in diameter at the base, where it is beveled to the plane of the body. The head is slightly upturned, like the fore part of a skate-runner. The pointed end, *gane'gowa*, is tipped with lead, grooves being cut in the wood and melted lead poured into a cone of paper or rawhide previously wrapped about the nose of the snake; the lead hardening, the paper or skin is unwrapped and the excess of lead is trimmed down with a knife or a file. The metal end serves the double purpose of protecting the head from becoming blunted or split, and of giving greater momentum to the stick when in motion. When no lead or pewter is to be had, the nose is roughly hewn out and then charred in a fire. The charred wood is scraped off, more definite shape given, and the charring repeated. This charring is




TYPES OF SENECA SNOW-SNAKES IN THE NEW YORK STATE MUSEUM

A, top view; B, bottom view; C, cross section at position indicated

## EXPLANATION OF PLATE XI

| *Number* | *Length* | *Point of balance from tip of head* | *Weight* | *Wood* |
|---|---|---|---|---|
| 1 | 69 inches | 29 inches | 11 ounces | Ash |
| 2 | 97 " | 41 " | 18 " | Maple |
| 3 | 95 " | 40 " | 17 " | Maple |
| 4 | 72 " | 31½ " | 9 " | Ash |
| 5 | 82½ " | 37 " | 12 " | Hickory |
| 6 | 84 " | 47½ " | 13 " | Hickory |
| 7 | 75 " | 30 " | 9 " | Maple |

said to harden and give greater weight to the wood. The end or tail of the snake, *gĕtgwi'gägĕ'*, is made slightly concave to afford a better finger-hold. Snow-snakes are made of various kinds of hard wood, such as maple and walnut, it being believed that some woods are better adapted to certain kinds of snow. This special knowledge is kept secret by the various experts in the art of snow-snakery. Some woods are used exclusively for throwing in light feathery snow, others for ice, others for crusty snow, and still other varieties for soft melting snow. The selection of proper sticks is therefore a matter of no small importance. Each stick has some distinctive mark by which its owner may recognize it among others. Three sticks constitute a set for throwing, although a complete set for all conditions of snow often contains twelve or fifteen. Long cloth bags, divided into compartments just wide and long enough for the sticks, are used as cases. The set of sticks is sheathed in the divisions of the bag, and when not in use the case is rolled up, tied, and stored in a place where the snow-snakes will not warp or otherwise deteriorate.

A level, though sometimes a slightly sloping, tract of ground, usually by some roadside, is selected for a track or trough, *gawoñ'go*. A smooth-barked log, from 10 to 18 inches in diameter, is dragged in a straight line through the snow for a distance of from 90 to 120 rods, accord-

FIG. 56.—Short snow-snakes used on the Tonawanda Seneca reservation. Each snake is 30 inches long.

ing to the slope of the ground. The process is repeated until a smooth icy trough from 10 to 18 inches deep is made. The snow is stamped down at the end selected as a starting point, and back for a distance of a couple of rods, and strewn with fine chips or ashes to prevent slipping. The mouth of the trough, *hadi-ye"da''kwa*, is built up higher than the main body of the track, and is also somewhat wider.

The game may be played by two contestants or by organized teams. During the midwinter festival, *Gänä'yüs'ta'*, when the two phratries or rival brotherhoods or clans seek to outdo each other in everything, phratry teams are organized. The clans of the Wolf, the Bear, the Turtle, and the Beaver enter their best players against the skilled experts of the clans of the Deer, Snipe, Heron, and Hawk. Ordinarily teams are made up with no reference to clans, the best players from a reservation or section of a reservation organizing to outdo all comers. In the game between the rival phratries, officers, *honon'diont*, are selected as collectors of the stakes. Each collector carries a pole over his shoulder, and articles to which the owner's name is attached are thrown over it. If live stock is wagered, a feather or a small bunch of hair is tied to the pole, and is redeemable in chicken or pig upon presentation to the party whose name is tied to the feather or hair, in event of that party's clan losing in the contest. Rival collectors meet and endeavor to match articles, value for value. Another round of visits is sometimes necessary to cover heavy betting on one side.

At the beginning of the snow-snake game the rival teams cluster about the clear space at the mouth of the track. The caretakers, *hawaz'o'gäs*, unroll the bundle of sticks and place the outspread bag on a low rack made by placing four crotched sticks, set on the points of a rectangle, as upright supports for horizontal cross-pieces.

Governed by the condition of the snow, the *hawaz'o'gäs* selects the special sticks for his principal and rubs them with a skin or cloth pad which has previously been saturated with some "secret" compound, *ononk'gwashĕt*. Various kinds of gum, wax, tallow, and oil are used, the kind rubbed on the stick depending on the condition of the weather and the snow. These "medicines" are employed to render the stick as smooth as possible and to overcome the

peculiar kind of friction exerted by the various kinds of snow. A good snow-snake is said to have good "stuff" in it, "stuff" referring to the kind of medicine, or "*swagum*," that has been rubbed into it. In ordinary packed snow, when the temperature ranges about 20° F., for example, the snow-snake doctor rubs the stick with refined beeswax or with spermicetti; for wet snow an extra dressing of turkey or duck oil is used. The compounds vary with the different *hawaz'o'gās*, each employing what his experience or imagination directs as best. A good *hawaz'o'gās* commands a liberal fee for his services.

At each game there are from two to four umpires, *hanontgā''ot*, whose duty it is to watch the snakes of their parties as they glide over the track and to mark the points where they stop, *oöčnt'hčt*, with a marker, *yčo"dak'wa*.

At a time agreed upon the umpires exclaim, "*Dadiwazayč"'!*" and one of the principals, *hč'odyes*, takes a stick from the *hawaz'o'gās*, and going back a rod or two from the mouth of the trough, grasps his snake by the tail, his thumb and middle-finger grasping the sides two or three inches from the end, and his index-finger bent and tightly pressed against the grooved end. The palm of the hand of course is turned upward. Dashing forward with every trained muscle in play, he hurls the snake into the trough, using all his skill to throw accurately and steadily. Just before he drops the stick, about the time when the player draws his arm back for the throw, his opponents jump toward him, making threatening gestures, and shouting in derision and discouragement, "*Toi'sko!*" "*Owāda"'go!*" "*Jaguk'!*" "*Shâ!*" "*Whoâ'ho"'!*" and other words of like import, hoping to unsteady the player by their clamor. To actually touch him, however, is not permitted. The snake, striking the track in proper form, speeds on swiftly, and the runners, *hono"'gâot*, are on instant guard lest anyone impede its progress. In its swift passage through the trough, the flexible stick twists and bends in truly snake-like fashion, its upturned head adding greatly to the resemblance. When it finally stops, the runners mark the point with a marker, *yčondak'wa*. The opposing principal then may throw his stick. His watchers have been alert ever since the first snake reached its goal, lest a lump of ice or snow

be cast into the track to impede the speed of their principal's stick. When the second snake has stopped, the first stick is lifted from the track and the one which has gone the greater distance declared the winner of the point. The object of leaving the first snake in the track is two-fold: it may stop the almost spent stick of the rival, but if, on the other hand, the rival's stick is far from spent, the first stick may have its tail split. The second stick, however, may pass the first without touching it. In some games the sticks are taken from the track immediately after being marked. Three

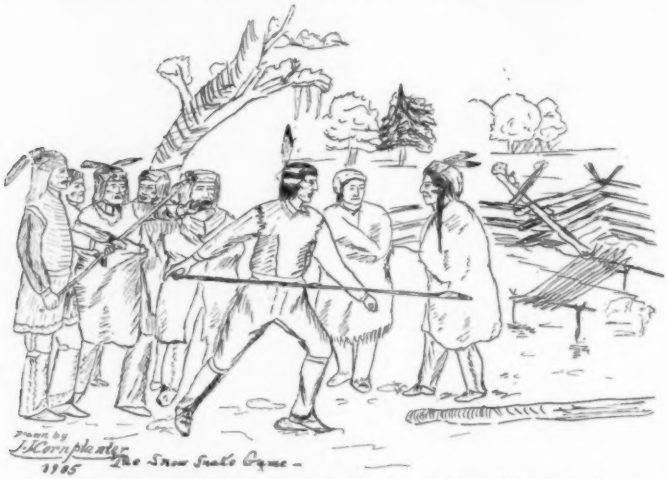



FIG. 57. — The snow-snake game. The drawing depicts a *hèdiè"s* in the act of throwing a snow-snake at one of the midwinter clan games at Newtown, Cattaraugus reservation, Erie county, New York.

out of five points constitute a game between two individual players. A snake is in play immediately upon leaving the hand, and in case of an accidental or a poor throw, there is no retrial. The rules of the game forbid anyone save the thrower, the runners, and the "doctors" to touch a stick. Should a person, especially a rival *hawaz'o'gās*, touch one's stick and be discovered, the cry of "*Dawon'wazawak'!*" would be raised and the offender disqualified or otherwise punished. The Seneca exclamation quoted means

"he has poisoned the snow-snake." All the other opponents on the teams match their skill, and the team winning the greater number of points wins the game, and the poles of stakes or the rolls of bills, as the case may be, are handed over to the winning side.

After each stick has been thrown, it is carefully rubbed with a dry skin and restored to its case, another stick designed for the same kind of snow being drawn from the bag for service.

Through some inaccuracy in poise, through inexperience or nervousness, the player sometimes throws his stick improperly. If it twists sharply as it leaves the hand it is apt to bound from the track and run into the softer snow outside. If it is not thrown at the proper angle its head may run into the snow when it strikes the track, that is, "spear the track." This accident brings forth many sarcastic jests, such as, "Are you afraid the trough will get away?" "What's the matter, — trying to nail down the snow?" "Thinks he's spearing fish!" etc. If the snake is not thrown with precision, it may not strike the track at all, but scud by outside, though possibly parallel with the track. Sometimes the snake turns turtle and slides on its head and back. This of course spoils the throw. A small lump of ice or of snow, or even a hump in the track, may cause the snake to leap from the trough and run wild outside. Even good players have their share of accidents.

Another form of the game is called *dĕyŭthă'gwŭt*, or the "pushing game." Two players, having but one stick between them, pace off a certain distance, say 200 yards, on each side of a given point in a level road. Player A and player B each takes a position at a given distance from the mark. A, having the stick, throws toward the central point and in the direction of B, coming, for example within ten yards of the latter. This is B's advantage. He advances ten yards to the snake, picks it up, and throws toward A, passing him, for example again, by five yards. A must therefore retreat from the central point five yards, take the stick, and throw again. If he comes only within 25 yards of B, B may advance toward the central mark to the snake and throw it back to A. If B is the better player, he can gradually push A back until he, B, stands upon the central mark and becomes the winner, when the game is

ended. Two well-matched players sometimes play for hours, one gaining inch by inch until the mark is reached.

Good players are able to throw a snow-snake on a level track for a distance of from 300 to 400 yards, and exceptional players claim greater distances. The distance increases, naturally, when slightly down-grade tracks are used.

The Tonawanda Seneca use snow-snakes 30 inches long, claiming greater distance records as a reason for their use. The discovery was made, they assert, through the breaking of a famous old stick, which, rather than discard, the owner used with surprising results. This discovery was made, I was informed, five or six years ago, and henceforth dozens of good old snow-snakes had their tails amputated by curious experimenters. The shorter snake requires a different method of throwing. There are two specimens of the short snow-snake in the New York State Museum, which I collected in 1906 from the Tonawanda reservation. Of the larger sticks, the State Museum has more than twenty of various woods, weights, and lengths.

NEW YORK STATE MUSEUM,
ALBANY.

# SOME OBSERVATIONS MADE IN NORTHWESTERN SOUTH DAKOTA

By GEORGE F. WILL

THIS paper is a record of a few observations made on a trip from Bismarck, North Dakota, to Slim Buttes and Cave Hills in South Dakota. The route led in a southwesterly direction from Bismarck to the forks of Grand river, thence almost westerly up the south fork until Slim Buttes were reached. These buttes lie about 60 miles from the boundary of Montana and South Dakota, and about 40 miles from the boundary of North Dakota and South Dakota. To the northwestward of them, and just south of the line between the two Dakotas, lie Cave Hills, some 35 miles away. Near the Montana line to the westward flows the Little Missouri river, along which the Bad Lands extend from the North Dakota and South Dakota line almost to the point where the river empties into the Missouri.

The whole region traversed was long claimed by the Sioux, and the Standing Rock reservation at one time included the land within a few miles of the eastern side of Slim Buttes. Slim Buttes and Cave Hills formed a veritable paradise for the hunter in the old days, as also did the Bad Lands proper. Elk, deer (both black tail and white), mountain sheep, and porcupine abounded in the hills, while the more level stretches teemed with antelope. Here also came Indians from all the Missouri river tribes to get the war-eagle feathers for their headdresses; consequently this region is well known to the neighboring tribes, and many of its places are localized in their traditions. Several Indians have told of gold found in hidden creeks, among others in a creek flowing northward from Eagle's Nest hills into the north fork of Grand river. Again the same story is told of a small creek at the northern end of Slim Buttes. Here, too, they relate how their fathers dug lead out of the creek-bed.

It seems probable that there should be very much of archeolog-



AM. ANTH., N. S., 11—17.

ical interest in the region, but, so far as known to the writer, it is almost a virgin field for this kind of exploration. The trip taken through the region was a rather hasty one, yet enough was observed to arouse a desire for further research.

The first archeological feature noted was the presence on hills here and there of cairns, some only two feet high, others four or five feet, and always roughly cylindrical in shape. Usually these cairns are in pairs, either on neighboring hills or on opposite ends of the same ridge. With the party was Mr Otis A. Tye, at one

FIG. 58. — The general character of Slim Buttes.

time a trapper and hunter, who speaks the Dakota language. Mr Tye says that he has often questioned the Indians as to the significance of these cairns, and the answer has always been that they mark points from which water can be located. This explanation held true in every instance in which it was tested ; in fact each pair of cairns seems to give the most complete outlook possible for many miles : one hill gives a perfect view for a half circle or more, and the other completes the circle.

The first cairn observed stands alone on the crest of a ridge, known as the Oak Coolie (*coulée*) hills, only a couple of hundred yards

from the old Black Hills trail. This one commands the view of a full circle, consequently there is not a second cairn. The second observation hill noted is about three miles northeast of Flasher, North Dakota, where extends a ridge, some 300 yards long, with a cairn at each end, built evidently of stones picked up near by, as the hill is very rocky. These cairns are about four feet high, and on turning over the loose stones at their bases flint chips in considerable quantities were noticed.

FIG. 59. — Remains of lodge, with buffalo skull, on Slim Buttes.

The next cairn we approached near enough for investigation stands on the point of a bluff on the south side of the Cannonball river, and commands the valley both up and down for many miles. This, too, has many flint flakes and chips scattered around its base. About half a mile to the south stands another cairn on a high hill, completing the circle of view. Other cairns were observed at intervals, but only once at close range. There is a pair occupying two sharp-pointed buttes about 600 yards apart, some seven miles southeast of Cave Hills.

Slim Buttes, the next region visited, are really a single ridge, some 25 miles long and from half a mile to three miles across. Rising suddenly to a height of several hundred feet, and dotted here and there with pines, they furnish a sharp contrast to the slightly rolling sage-brush country around them. The buttes are chiefly of white sandstone, covered only at intervals with soil, and seamed with deep rugged gulches and cañons. The western side forms an almost unbroken precipice, extending out into many sharp points.

The sandstone in spots is very rich in fossils, especially of some species of land tortoise. Springs flow from the rocks in many places, affording excellent camping places, and even now game is plentiful. The war-eagle nests on the higher peaks, and the spurs running out on the western wall furnish ideal places for the capture of this bird. Figure 58 shows the general character of the buttes.

Little time was spent at Slim Buttes, but some points of archeological interest were observed and a number of broken arrowheads were picked up on the surface. Two old pits were discovered here which have been used for eagle catching. The pits are hollowed out of the weathered sandstone to a depth of about three feet and a half, and have a length of about four feet and a width of two. Scattered about the bottom and around the openings are pieces of small sticks about half an inch in diameter, which had probably been used as a covering for the pit. The method of taking these birds has been so often described that repetition is unnecessary. Most of the writers, however, say that the bird was killed, whereas Mr Joe Taylor, who lived among all the Missouri river tribes for years, states in his book, *Twenty Years on the Trap Line*, that the eagles were plucked of their tail-feathers and then liberated. Both of the pits found are on the very tips of points jutting from the western wall, with precipitous faces on both sides.

Another object observed at Slim Buttes is of considerable interest. It is a ruined Indian lodge of the common tipi shape, but substantially built. It is about ten feet in diameter and some twelve feet high. Instead of consisting of a mere framework covered with skins however, the substructure was solidly built of aspen poles, from an inch to three inches in diameter, laid close together. Over these sticks are the much-decayed remains of a straw or grass covering, over which had been placed earth to a thickness of several inches. The earth however, for the greater part, has washed off. The interior had evidently been excavated to a depth of twelve to eighteen inches when the lodge was built. Within, just back of the center, the ashes of the fireplace can still be seen, and also a buffalo skull with traces of painting in colors on the frontal. In the accompanying photograph (fig. 59) this skull is shown placed outside the stakes.

The age of the lodge is hard to determine, but Mr Tye stated that he had first seen it twenty years ago, and that the earth had begun to wash off at that time. The site chosen for it is an excellent one for a winter camp. It stands in the main bed level of a washed-out gulch, completely surrounded and hidden by an aspen thicket. The original bed had been again washed out just west of the lodge site to a depth of fifteen or twenty feet, and here, immediately below the lodge, a spring of delicious water flows out of the bank. Earthen lodges were the typical habitations of the Arikara, Mandan, and Hidatsa Indians, rather than of the Sioux.

FIG. 60. — General view of Cave Hills.

Cave Hills was the next point of interest visited. The general appearance is as if the hills had originally formed a single flat-topped circular mass, rising some three hundred or four hundred feet. This mass was afterward eroded, leaving a number of steep-sided, flat-bottomed valleys, with flat-topped ridges between, all of the same altitude. Throughout the valleys flow creeks bordered with patches of brush. The lower slopes of the hills are bare, but toward the summits and also on the flat tops the Black Hills pine grows in considerable abundance. About ninety feet from the level summits, on all the hills, there is a break in the slope, and here a nearly perpendicular wall of rather soft sandstone,

in alternate layers of brownish yellow and red, crowns and completes the elevation.

Throughout all the hills the elements have worn the sandstone wall full of pockets, caves, and caverns. Some of these are large enough only to accommodate a bird's nest, others have been used for refuge by small herds of cattle, while in still others men have left their traces. This feature gives the hills their name.

The observations here recorded were made on the ridge about two miles directly south of a small ranch, Ludlow post-office, in which ridge is situated what is called "Big Cave."

FIG. 61. — Gulch in which Big Cave is situated.

The first object noted was an effigy, possibly of a turtle. This is situated on a small flat bench on the lower slope of the ridge, and not far above the dry creek bed. It is about 30 feet long by 15 feet or 18 feet wide, and was constructed by outlining the figure with whitish bowlders from eight inches to a foot in diameter and one to two feet apart. The figure lies in a north-and-south direction, but it is difficult to determine which is the head. The shape is shown in figure 62.

In one of the larger and deeper pockets at the base of the cliff a small piece of black pottery and a few flint chips were uncovered

from the sand of the floor, but nothing else was found. The sherd, a fragment of the rim of a vessel, resembles the pottery of the sedentary Missouri river tribes.

At the Big Cave and in its neighborhood were found the most interesting objects. The cave is situated on the northern side of the ridge, in a gulch filled with huge blocks of sandstone that formerly roofed a larger cavern. The entrance is in the eastern face of the gulch, and not many years ago was like the rest of the bowl-shaped pockets, with an overhanging curtain of stone in front. This has fallen in rather recently, partly blocking the entrance and carrying down part of the original surface of the side walls with it. The real cave is a sort of narrow crevice running back from this pocket entrance for many hundred feet, but it is only at the entrance that the petroglyphs to be described occur.

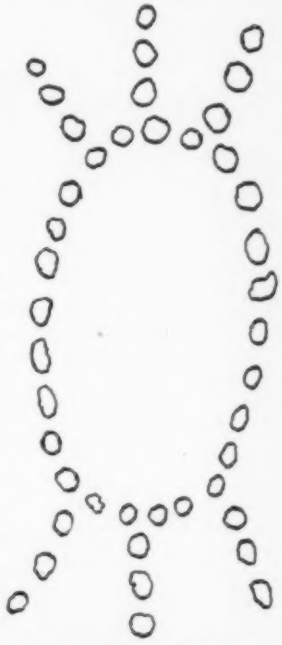


FIG. 62. — Effigy outline of stones.

On the northern side of the cave entrance, and within 20 or 30 yards, is a mound, manifestly artificial, consisting of large quantities of stones averaging from three to five inches through. The mound is about 10 feet in diameter, nearly round, and about three feet high at the highest point, in the center.

The walls of the entrance to the cave were at one time completely covered with carvings and scratchings in the soft sandstone. The collapse of the overhang in front, however, has carried almost all of these with it. By kneeling down and peering in among the huge blocks of stone it can be seen that large numbers of the carvings are still intact, though buried under tons of sandstone blocks.

These petroglyphs can be broadly divided into three kinds, not counting the light scratchings here and there. The largest number

FIG. 63. — The sandstone pockets in Cave Hills.

of those still on the walls were designed to represent animals of various kinds, as the deer and the dog, and also crude human figures, the general appearance approximating that of the figures painted on Indian record blankets.

Another type consists of what appear to be conventional symbols. Of this type only two good examples were seen ; these were photographed successfully and then removed with considerable difficulty. These petroglyphs are carved much more deeply than those previously described. Both types show traces of painting, principally in red, yellow, and blue.

Of a third variety of petroglyphs Mr Tye gave more information than could be gleaned in the cave, as he had visited the spot some years ago, prior to the fall of the roof. Only a few fragmentary examples remain, but these are suffi-

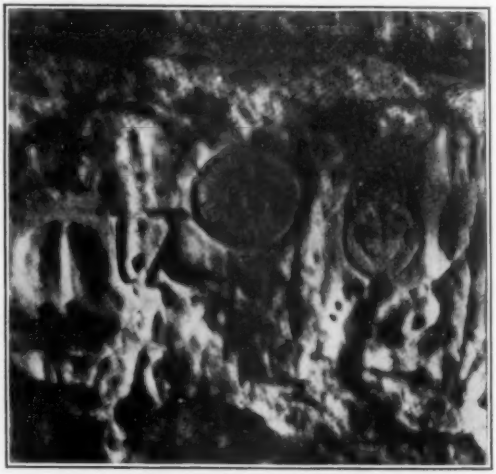


FIG. 64. — Petroglyphs in Big Cave.

cient to show that they once represented human heads in strong bas-relief, placed, so far as seen, on some point jutting out of the wall or on the angles where the opening of the cave commenced. The portions of heads that remain are farther back than the other carvings, consequently a good photograph could not be obtained. This is unfortunate, as the few examples remaining are mutilated and likely to crumble away very soon. Mr Tye states that on his

FIG. 65. — Details of petroglyphs in Big Cave.

former visit there was a considerable number of these heads in perfect condition, but these have all gone down with the fallen walls and roof. With sufficient time and proper implements some of the heads, as well as other interesting carvings, could be rescued from beneath the fallen mass.

Owing to the short time spent in the region, this brief report is necessarily superficial, but if it should arouse an interest which will lead to a careful exploration, it will have served its purpose.

BISMARCK, NORTH DAKOTA.

# THE BANNOCK AND SHOSHONI LANGUAGES

By A. L. KROEBER

THE Shoshonean or northern division of the Uto-Aztekan linguistic family, sometimes considered as forming a distinct family itself, consists of four principal branches, which comprise altogether eight groups of dialects: the Plateau branch, divisible into Shoshoni-Comanche, Mono-Paviotso, and Ute-Chemehuevi; the Kern River branch; the Hopi branch; and the Southern California branch, consisting of Gabrielino, Serrano, and Luiseño-Cahuilla.

The Shoshonean languages are for the greater part very little known, and the scattered records of them have been written down by various observers following different methods. This rendered it necessary that the classification which has been made [1] should be based on the material collected in uniform manner by one investigator. Certain dialects, among which were Bannock and Shoshoni, were however very imperfectly represented in this material. The vocabularies of both these languages available for comparison were accidentally taken down several years before a general systematic study was undertaken, at which later time opportunity was lacking to amplify them.

Consequently an occasion for obtaining information as to these two languages, presented by the visit to San Francisco of a number of Shoshoni and Bannock, was made use of. Thanks for courtesy and assistance in this connection are due Mr J. F. Goss of Salt Lake City, manager of the party.

The Bannock informant was Fred Wadzese, a young man from Fort Hall reservation, Idaho. James Brown, a middle-aged Shoshoni born in the vicinity of Ruby Valley and Elko in eastern Nevada, and now making his home at Washakie, near Portage, in northwestern Utah, was a more interesting and valuable informant.

The Bannock vocabulary shows that the dialect belongs to the

[1] Univ. Calif. Publ. in Amer. Arch. Ethn., IV, 65–167, 1907.

Mono-Paviotso group. It was said to be sufficiently similar to the Paviotso or so-called Paiute of western Nevada for the two languages to be mutually intelligible. It is closely related to Mono. Unfortunately it could not be ascertained in what precise locality the informant's dialect was originally spoken, nor was it possible to determine positively that the material secured represented the only Bannock dialect on Fort Hall reservation, though this seems to be the case. It appears accordingly that the Bannock vocabulary formerly discussed [1] was included in the Ute-Chemehuevi group only because of its incompleteness and imperfection, and that all tribes properly called Bannock must be united with the Mono, Paviotso or western "Paiute," and Walpapi or Snake, in the Mono-Paviotso group. As the term Paviotso has had very little usage, the group would perhaps be better designated as Mono-Bannock.

The Shoshoni informant, while born in eastern Nevada, had been several times with the Shoshoni of Fort Hall in Idaho and of Wind River in Wyoming, and lived chiefly in northern Utah. He declared that the Shoshoni spoken in all these places was identical, and differed in no way from the Shoshoni of the two members of the party who were from Lemhi reservation in southern Idaho. Among the Shoshoni he had met Gosiute and Comanche, both of whose dialects he was able to understand and regarded as Shoshoni. On the other hand he looked upon Bannock and Ute as different languages. The Lemhi Shoshoni words given by Dr Lowie [2] also agree well with the author's. It therefore appears that the form of speech customarily known as Shoshoni is everywhere the same or nearly the same, and that the entire Shoshoni-Comanche group is comparatively uniform.

James Brown called the people of Elko and vicinity, *Tocowix*,[3] white-knives. The Ruby Valley people are *Warü-dika-nü*, wara-eaters. Wara are black seeds growing in salty places. The people about Austin, Nevada, he knew as *Düve-dika-nü*, pine-nut-eaters,

[1] Op. cit., 67, 103, 105, 115.

[2] Anthr. Pap. Am. Mus. Nat. Hist. II, 165–306, 1909.

[3] C = sh ; tc = ch ; x = surd spirant of k series ; ǧ = sonant spirant of k series ; q = k in velar position, G = sonant spirant of velar series ; ñ = nasal of k series ; ' = glottal stop ; ' = aspiration ; v = bilabial v ; ö, ü = Shoshonean ö, ü, indistinct with imperfect rounding of the lips.

and as "talking like the Shoshoni." The Lemhi people are *Duku-dika-nü*, mountain-sheep-eaters. The Gosiute he called *Kucyut*. The name Paviotso he gave to the people so called by Powell; whether it is their own name or a Shoshoni word, is not certain. The true Paiute at Fillmore, Utah, he knew as *Huga-paka*, cane-arrows.

Mr C. E. Kelsey, special Indian agent for California, recently informed the author that the so-called "Paiute" of Owens river in eastern California, who are Mono-Paviotso, called the Indians of Owens lake, the Koso and Panamint mountains, and Death valley, "Shoshoni" and Koso, and declared them to speak a different language from their own. Mr Kelsey obtained the count of these "Shoshoni." The numerals end in -te and agree with those of the Shikaviyam, Sikauyam, Sikaium, Shikaich, Koso, or Kosho dialect material[1] recorded as spoken in the same region. The Shikaviyam was accordingly compared with vocabularies from the Plateau tribes, and a clearly Shoshoni element determined, though the incompleteness of the available Shoshoni material prevented any more radical conclusions at the time.

The new Shoshoni material, however, is sufficiently full to disclose an intimate relation between Shoshoni and Shikaviyam, so much so that Shikaviyam must be transposed from the Mono-Paviotso to the Shoshoni-Comanche group.[2]

There are accordingly Indians of the Shoshoni-Comanche group, whether or not they can correctly be designated as Shoshoni outright, in eastern California, in the region between Owens lake and Death valley. The most westerly Shoshoni previously recorded

[1] Univ. Calif. Publ., op. cit., 68, 71, 118.

[2] In the following Shoshoni words, Shoshoni and Shikaviyam show a common stem peculiar to themselves: woman, *waip*$^{i}$; young man, boy, *tuivitci*; head, *-m-bambi*; bone, *dzu*$^{i}$*nip*; snow, *takav*; earth, *cügup*; stream, *ogwip*$^{i}$; sand, *ba-covamp*; wood, *hùp*$^{i}$; bird, *hutcu*; crow, *gak*$^{i}$; much, *co-nt*; yesterday, *güntu*; to-morrow, *imã*; give, *ut*. In the following Shoshoni and Shikaviyam are more similar to each other than to any other dialects: man, *tenip*$^{i}$; ear, *neñki*; your eye, *üm-bui*; beard, *mots*$^{u}$; hand, *mo*; foot, *namp*$^{i}$; night, *dugan*$^{i}$; salt, *onap*$^{i}$; deer, *dühia*; owl, *mumbitc*; no, *ge*; run, *nuk*$^{i}$; sleep, *übui*; sit, *gadü*. As compared with these, a few Mono-Shikaviyam resemblances may be due to borrowing between adjacent dialects, or to occasional confusion on the part of the sole Shikaviyam informant, whose native language was Tübatulabal and from whom Mono and Kawaiisu vocabularies were also obtained.

seem to be in the vicinity of Belmont, in south central Nevada, except for Mr Coville's reference to "mixed Paiutes and Shoshonis" near Ash Meadows, Nevada, east of Death valley.[1] It remains to be ascertained whether the Shikaviyam Shoshoni were connected by a continuous strip of Shoshoni territory with the Shoshoni of Nevada, or whether they constitute a geographically detached group living to the west of other tribes of Shoshoni-Comanche affiliation.

In any case two facts are established:

1. The Shoshoni-Comanche are to be added to the Shoshonean dialectic groups represented in California. As four of these groups are confined to California, and Mono-Paviotso and Ute-Chemehuevi dialects have been previously known in eastern California, it follows that California contains representatives of seven out of the eight principal dialectic divisions of Shoshonean, — in other words, every division except Hopi.

2. The Shoshonean area of which the dialects have heretofore been undetermined,[2] is now largely reduced. The entire northern portion or arm of this area is to be assigned to the Shoshoni-Comanche.

The words Panamint and Vanyume seem to be the same. It remains to be explained why the Mohave apply the term Vanyume to the Serrano of the Mohave desert, when the Panamint mountains are in Shoshoni territory.

A Chemehuevi called the "Sosoni" Indians Gvöötş.[3] It is possible that this is a form of the name Koso.

The name Shikaviyam contains the Uto-Aztekan plural suffix -m. As this suffix has not been found in Mono-Paviotso or Shoshoni-Comanche, Shikaviyam is presumably not the name which the Shikaviyam give themselves or their Mono neighbors apply to them, but the term by which they are known to some other Shoshonean group, such as the Kawaiisu, the Serrano, or the Tübatulabal of Kern river.

[1] *American Anthropologist*, v, 351, 1892.

[2] See the map in Univ. Calif. Publ., op. cit., 164.

[3] Ibid., 107.

BANNOCK

The accent is often final in Bannock. Many vowels, especially at the end of words, appear to be somewhat nasalized. Whispered vowels often close words, as in Ute and Shoshoni. Final vowels and final consonants seem to be regularly aspirated. Shoshonean ō and ü occur. Surd and sonant stops are as difficult to distinguish as in Ute and Shoshoni. Q, velar k, is distinguishable from ordinary k. G is generally spirant; G, velar spirant sonant, was also heard. V is bilabial, as always in Shoshonean; it is related to p, as substitution for it in different forms of the same word shows. R was not heard; it seems to be replaced by a d resembling r; compare *sadü*, dog, Ute *sari-tc*.

Owing to necessary limitation of investigation, it was advisable to confine grammatical inquiries to certain points on which comparisons could be made with other Shoshonean languages: the expression of the plural, the objective relation in the noun, and noun endings.

No trace of the plural suffix -m was found. Gatschet has already stated that this ending does not seem to occur in Paviotso.[1] A few cases of reduplication to indicate the plural were obtained: *mocon*$^{i}$, *mo-mocon*$^{i}$, women; *waits*, *waq-waits*, old men; *sia'a*, *su-züa*, girls. These are all nouns denoting persons, and it is not known how extensive the process is. Inanimate nouns were obtained in the same form in singular and plural.

Nothing like the Ute and Luiseño objective suffix -e, -i, was recorded.

One case of loss of noun-ending in composition was encountered: *pü-üp*, blood, *i-vü*, my blood, *ü-pü*, your blood, *ta-pü*, our blood. This is of importance as showing that Bannock, and therefore Mono-Paviotso, follow at least to some extent this characteristic process found in Ute-Chemehuevi, Luiseño-Cahuilla, Kern River, Nahuatl, and other Uto-Aztekan languages, while Shoshoni, as will be seen, and Pima, do not follow it when the possessive pronominal elements are prefixed.

[1] Rep. Chief of Engineers, 1876, III, 559.

### Shoshoni

Shoshoni and Bannock are phonetically similar, but show certain differences. Shoshoni possesses the final whispered vowels found in all Plateau dialects, but lacks the tendency to nasalization that appears to pervade Bannock final vowels, as well as the frequent accentuation of the last syllable of words in that language. For instance, Bannock, *mɔvi'*, nose, *naqa'*, ear, *pui'*, eye; Shoshoni, *u-mu'vi*, *u-ne'ñki*, *üm-bu'i*. The vowels i, e, o, u, are open; the same seems to be true of Bannock.

Velar q, present in both Bannock and Ute, seems to be absent. G is at least sometimes spirant. The nasal in k-position, ñ, occurs only before g and k. R resembles d, and was heard interchangeably with it: *dü'hia*, *co'gu-rhia*; *debit*, *nü-rebit*, *debir-inyö*. V is related to p as in Bannock: *hu-pak*, wood-arrow, *nyü-vak*, my arrow; *ba'mⁿ*, tobacco, *nü-va'mⁿ*, my tobacco.

The difficulty of discriminating between surd and sonant stops, which this dialect in common with all Shoshonean languages presents to the investigator, may find its solution in a determination made in regard to Papago, a Uto-Aztekan dialect of the Piman group. Recent opportunity of hearing Papago for some time led to the conclusion that all initial and medial consonants, stops as well as continuants, were sonant, though in the case of stops harder than in English; while all final consonants were surd and strongly aspirated. In other words, there is organically only one sound in each tongue-position, which varies between sonancy and surdness according to its place in the word. This conclusion was confirmed by mechanical determinations made by Professor P. E. Goddard, which further showed the interesting fact that sonancy occurred later in the formation of the sounds than in English, the impulse to its production being contemporaneous with the final release of position in a stopped consonant. Hence the apparent "hardness," which led at first to the same sound being written once as b, then as p, or once as g, then as k, and has caused initial and medial sonants to be generally recorded as surds by white observers.

It was not possible to make similar mechanical observations of Shoshoni, but the impression was had very strongly that the same

condition existed in both this language and Bannock, at least as regards stops, as in Papago. In both Shoshoni and Bannock, final stopped consonants were always heard distinctly surd and more or less aspirated, though probably less strongly than in Papago; while initial and medial consonants were heard and written once as surd, once as sonant, and once as intermediate. Exactly the same has been the writer's experience with Luiseño, Cahuilla, and other Shoshonean languages. The Luiseño word for rock seemed to lie between *doda* and *tota;* but without the final -a it would be dot or tot, never dod. If this law, of only one series of stops, and perhaps other consonants also, varying between surdness and sonancy according to position, holds throughout the Shoshonean dialects, Sparkman and others who have written only surds are correct, so long as it is remembered that what is inherently one sound becomes surd or sonant according to its position in relation to vowels.

Professor Goddard's determination of the peculiar nature of the Papago sonants is also likely to be of general importance in explaining the true nature of the little-understood "intermediates" between surd and sonant that have been reported in a number of American languages.

Final vowels were also generally heard aspirated in Shoshoni, as in Bannock and Papago.

G in all three Plateau languages is usually, perhaps always, spirant. D is similar in sound to r, and vice versa, and one replaces the other dialectically. V and p are closely related, as shown by their appearing for each other in the same stems. Since sonant stops as a distinct class from surd stops are at best doubtful, *g*, r, and v, in other words sonant continuants, must therefore be recognized in the three Plateau dialect groups of Shoshonean instead of g, d, and b of English quality. Whether these continuants merely take the place of our sonant stops, or whether they are spirantized modifications of original stops, remains to be ascertained.

In another way the experience gained in Papago may throw light on Shoshonean phonetics. In all Shoshonean dialectic groups, except Luiseño-Cahuilla, the characteristic "impure" sounds ö, ü, *o*, *u*, were originally heard. Increased familiarity led to the conclusion that ö and *o*, ü and *u*, each represented but one vowel

quality. Acquaintance with Papago finally brought the conviction that ö and ü were only different apperceptions of one sound of obscure quality, produced with but slight rounding of the lips. This unfortunately could not be verified by experimental mechanical means in the time available, vowel determinations being as yet much more difficult, with the apparatus employed by Professor Goddard, than most those concerning consonants. Ö and ü were certainly both heard in Papago to the end of the study made; but the fact that both were heard in the same word as pronounced at different times, made their identity the more probable.

In Shoshoni, and Bannock as well, both ö and ü were also heard, but a comparison of the record shows that they were noted almost indiscriminately in the same words, as for instance the possessive elements, so that it is not unlikely that they constitute but a single sound in these and other Shoshonean languages.

In both Shoshoni and Bannock, no combinations of consonants were observed at the beginning of words, and none at the end except groups like mp and nt, which are apparent developments of simple sounds.

The plural suffix -m was not observed in Shoshoni except in the personal pronoun, but names of persons are provided with a suffix or postposed particle -nü or -nyö: *Yuta-nü*, Utes, *tuivitci-nyö*, young men, *naipi-nyö*, young women, *daivo-nü*, white men.

No objective case-ending was obtained. Ute -e, Luiseño -i, and similar suffixes in certain of the Uto-Aztekan languages of northern Mexico, would seem to demand a considerable antiquity of the ending to explain its widespread distribution. Its complete absence from Nahuatl and other Mexican languages, from Papago and Pima, from Shoshoni-Comanche, and apparently Mono-Paviotso, however compel caution in this assumption.

Noun terminations occur in Shoshoni, but are peculiar in not being lost when a possessive pronoun is prefixed to the noun. At least no instance of such loss could be observed. Shoshoni is the only Shoshonean dialect for which this condition has been established. The stem of *dimpi*, stone, is *di*, as shown by Nahuatl *ie-tl*, my stone *no-te-uh*; Luiseño, *to-ta*, my stone *no-to*. My stone in Shoshoni is however not *nyüa-di*, as might be expected, but *nyüa-*

*di-mp*$^{i}$. Similarly, *nyü-hù-pi*, my wood, *nü-vü-p*$^{i}$, my blood, as compared with *bü-p*$^{i}$, blood and with Bannock *i-vü* from *pü-üp*$^{i}$.

On the other hand, that the terminations exist, and are detachable, is proven not only by comparative forms in other dialects, but by the loss of the endings in binary noun-composition. Thus:

*hü-pi*, wood, *hu-aik*, wood-bow, not gun, *hu-pak*$^{a}$, wood-arrow, not penis, *hu-guna*, fire-wood, not tree.

*bacüva-mp*, sand, *bacüva-cogup*, sand-country.

*cogu-p*, land, *dühia*, horse, *cogu-rhia*, deer.

*duku-tci*, mountain-sheep, *duku-dika-nü*, Sheep-eaters.

This type of loss of noun-ending occurs in Nahuatl, but has not been reported in the Southern California dialects for the reason that composition of two nouns is rare in these dialects, and even, if Sparkman is correct, entirely wanting at least from Luiseño.[1] The above forms are therefore of double interest as proving also the existence of binary noun-compounds in Shoshoni-Comanche.

That the noun-termination, contrary to usual Uto-Aztekan rule, is not lost after a possessive prefix, seems to point to a different status of the pronominal elements in Shoshoni. They may prove to be independent words that are preposed, and not prefixes as is usual in other dialects.

It is also clear that certain nouns are not provided in any circumstances with terminations. Such are *pa*, water, *wi*$^{c}$, knife, *müʼa*, moon. Ute-Chemehuevi and Mono-Paviotso also show certain nouns lacking endings, and in Luiseño-Cahuilla certain body-part and onomatopoetic terms are also without them. Easily the prevailing suffix in Shoshoni is -p. This -p is also the commonest suffix in Mono-Paviotso and Ute-Chemehuevi.

A similar practice is followed in adjectives as in nouns. As given as independent words, adjectives of color end in *-vitc*: *bu-vitc*, green or blue, *òo-pitc*, yellow. In composition this ending does not appear:

*doca-vitc*, white, *doco-wi*$^{c}$, white-knives, *doc-gamh*$^{m}$, white rabbit, jackrabbit.

*du-vitc*, black, *du-waʼni*, black fox, gray fox.

*cẽga-vitc*, red, *cẽga-bucia*, red-louse, flea.

[1] *American Anthropologist*, n.s., VII, 656–662, 1905.

The pronouns determined are:

| | Independent | Possessive |
|---|---|---|
| S 1 | *nü* | *nü-, nyü-, nyüa-* |
| 2 | *ün* | *üm-* |
| 3 | | *u-, a-* |
| D 1 | *ta-u* | |
| 2 | *müw-u* | |
| P 1 incl. | *ta-m*$^{u}$ | *tamü-* |
| 1 excl. | *nü-m*$^{u}$ | |
| 2 | *mü-m*$^{u}$ | |

Before nouns with initial dentals the possessive prefixes of the first and third person singular, and first person plural, add -n-; before labials, -m-.

*u-m-bamp*$^{i}$, his head. *tamü-n-dav*$^{a}$, our sun.
*nyüa-n-dimp*$^{i}$, my mouth. *daivo a-m-bui*, white man's eye.

A similar appearance of nasals between prefix and noun is observable in Shikaviyam.

As will be seen, the dual is formed by -u, the plural by -m$^{u}$. The latter is the only noted occurrence in the language of this widely-spread Uto-Aztekan suffix. Shoshoni is the only Shoshonean dialect in which a dual has yet been reported. The distinction, in the expression of the first person, between inclusion and exclusion of the second person, occurs also in Ute-Chemehuevi.[1]

The a- of the third person possessive is paralleled by an identical form in Gabrielino and in Serrano. Luiseño-Cahuilla shows po- or pe-, of demonstrative origin, and Mono an unexplained da-.

Demonstratives are:

| | This | That |
|---|---|---|
| S | *cit* | *cut* |
| D | *cid-iwü* | *cur-iwa* |
| P | *cid-iü* | *cur-i* |

*Ci-k* and *cu-k*, here and there, were also obtained as meaning this and that.

A third stem, *ca-t* and *ca-k*, was recorded a few times.

Another set of demonstratives, said to denote invisibility, per-

[1] *American Anthropologist*, n.s., x, 74-87, 1908.

haps expressing reference rather than distance, but showing the i and u of *ci-t* and *cu-t*, are ic and uc:

*ic-i cu-t hû-pi*, the same wood.
*hagar-uc*, or *-ic*, which one is it that . . .?
*hin ic*, what is this?
*ic-in-cut*, this is the one.

Interrogatives are *hagat*, *hagar-*, who; *hagan*, where; *hin*, what.

Ha- for who and where, and hi- for what, are the usual Shoshonean stems.

Numerals end in -itc, -tc, -ty, $t^i$.

The future intentive is expressed by -rui on verbs. Other verbal endings are -n, -k, -gin.

*Dave-ny*, day, like Bannock *tavi-n*, may be a locative form of *dav'*, sun.

VOCABULARY

| ENGLISH | BANNOCK | SHOSHONI |
|---|---|---|
| One | *cüwayu* | *sim$^{m}$* |
| Two | *wahayu* | *wadu* |
| Three | *pahiu* | *ba$^i$ty$^i$* |
| Four | *watsõqwi* | *wadjuwitc* |
| Five | *manigiu* | *manõgit* |
| Ten | *cõwanoyu* | *cümanu'tc* |
| Man | *nana* | *tenip$^i$* |
| Woman | *moGon$^i$* | *waip$^i$* |
| Old Man | *waits* | *tsuGapü* |
| Old Woman | *piavav$^i$* | *hõvidzotsi* |
| Person | *nõvü'* | *nüm$^{n}$* |
| Head | *tsopi'* | *bamp$^i$* |
| Hair | *wop$^i$* | *bamp$^i$* |
| Ear | *naqa'* | *-neñk$^i$* |
| Eye | *pui'* | *-bui* |
| Nose | *movi'* | *mup$^i$* |
| Mouth | *dipa'* | *-dimp$^i$* |
| Tongue | *iGo'* | *-eik$^o$* |
| Tooth | *tava* | *-dam$^{n}$* |
| Hand | *mai* | *-mo* |
| Belly | *ucapü'* | *-cap* |
| Foot | *uqüqü'* | *-nambe* |

| ENGLISH | BANNOCK | SHOSHONI |
|---|---|---|
| Bone | *oho'* | *-dzu'nip* |
| Blood | *püüp'* | *büp'* |
| House | *novi'* | *ga'n* |
| Bow | *adü* | *aik'* |
| Arrow | *paGap'* | *paka* |
| Fire | *naidü* | *gu'na* |
| Smoke | *kwidaGa* | *kwip'* |
| Water | *pa* | *ba'a* |
| Land | *tiip* | *cogup* |
| Rock | *tüpi'* | *dimp'* |
| Dog | *sadü'* | *sari* |
| Deer | *tõhü'tc* | *dühia* (now "horse") |
| Elk | *pa-tõutc* | *ba-r'hia* |
| Jackrabbit | *Gamõ'* | *doc-gam'* |
| Rabbit | *tavo* | *dap'* |
| Much | *iwayu* | *cont* |
| Yesterday | *izi* | *günt'* |
| Tomorrow | *moa* | *ima'a* |
| Yes | *aha'* | *ha'a* |
| No | *Gai* | *ge* |

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# THE DHUDHUROA LANGUAGE OF VICTORIA

By R. H. MATHEWS

THE Dhudhuroa was spoken by the Dyinningmiddhang tribe on the Mitta Mitta and Kiewa rivers, and along the Murray valley from Albury to Jingellic. Minyambuta, a dialect of the Dhudhuroa, was the speech of the tribes occupying the Buffalo, King, Ovens, and Broken rivers, with the tributaries of all these streams. From Jingellic eastward was the country of the Walgálu tribe, whose speech resembled partly the Dhudhuroa and partly the Dyirringañ, a tongue spoken from about Nimmitabel to Bega. In 1902 I published a short grammar of the Dyirringañ language.[1]

The *Wonggoa* ceremony of initiation, which was in force among the Dyinningmiddhang and Minyambuta tribes, was described by me in 1904.[2] The initiation ceremony of the Dyirringañ is fully set forth in an article communicated to the Anthropological Society of Washington, U. S. A., in 1896.[3]

North of the Dyinningmiddhang, on the opposite side of the Murray, the country was occupied by the outskirts of the Wiradjuri nation. As a consequence of this, we find that the Wiradjuri system of marriage and descent [4] overlapped some distance southerly from the Murray among the Dhudhuroa speaking people. For example, along a narrow strip of country on the southern bank of Murray from Albury to Jingellic, the descent of the children is through the mother. Among the Minyambuta the descent was paternal, the same as among the tribes to the west and south of them, particulars of which I have given elsewhere.[5]

## Dhudhuroa Grammar

### *Nouns*

Nouns are subject to inflection for number, gender, and case.

[1] *Journal Royal Society New South Wales*, xxxvi, 160–167.
[2] Ibid., xxxviii, 306–322.
[3] *American Anthropologist*, ix, 1896, 327–344, with plate.
[4] *American Anthropologist*, ix, 1896, 411–416; Ibid., x, 345–347.
[5] *Journal Royal Society New South Wales*, xxxviii, 297–305.

NUMBER. — *Yauara*, a kangaroo; *yauaraulbo*, a pair of kangaroos; *yauaramunga*, several kangaroos.

GENDER. — *Dyaba*, a man; *mulla*, a woman. *Yauara-jumma*, a male kangaroo; *yauara-dyunggāna*, a female kangaroo. Among birds, the cock is denoted by the postfix *bendyana*, and the hen by *mimmindyana*.

CASE. — There are two forms of the nominative. When the action is described by an intransitive verb, the noun is without flexion; but when a transitive verb is used, the noun takes a causative suffix, as *dyabungu dyaua dugge*, a man an opossum killed.

Genitive: *Dyabala wūngewa*, a man's boomerang; *mullala dyudya*, a woman's yamstick.

The accusative is generally the same as the nominative, but when an instrument is the remote object of the verb, it requires a suffix, as *dyabangu wagara wūngewangu yerriadhani*, a man at a crow a boomerang threw.

The dative and ablative have their respective inflections.

*Adjectives*

Adjectives take the same declensions for number, gender, and case as the nouns with which they are used: *Wagara murrandoa*, a large crow; *wagaralbo murrandoalba*, a pair of large crows. The adjective always follows the noun which it qualifies. Adjectives are compared by two positive statements.

*Pronouns*

Pronouns have number, person, and case, and contain two distinct forms in the first person of the dual and plural.

The nominative pronouns are:

| | | | |
|---|---|---|---|
| Singular | 1st person | I | *nguddha* |
| | 2d person | thou | *nginda* |
| | 3d person | he | *magudha* |
| Dual | 1st person | we, inclusive | *ngulla* |
| | | we, exclusive | *ngullandha* |
| Plural | 1st person | we, inclusive | *ngana* |
| | | we, exclusive | *nganandha* |

The following are the possessive pronouns in the singular number:

| | | | |
|---|---|---|---|
| Singular | 1st person | mine | *ngaila* |
| | 2d person | thine | *nginna* |
| | 3d person | his | *magudhala* |

DEMONSTRATIVES. — This, *dyimbi;* that, *maigadha;* that, farther, *mamaitgura;* that, still farther, *madhanbunga;* that, away yonder, *kait-gu-ru'-u-u.*

INTERROGATIVES. — Who (is that), *nganbandu;* who (did that), *nganbunga;* who (for), *ngangala;* who (from), *ngandung'u;* who (are those two), *nganbulbul;* what, *minyua;* what for, *minyēna;* how many, *minyamalañ.*

*Verbs*

Verbs have the same numbers and persons as the pronouns, with the usual tenses and moods. Tables of conjugations are not thought necessary, but a tolerably full list of verbs in common use will be found in the vocabulary. They are conjugated as in the Wiradyuri language,[1] published by me in 1904.

*Adverbs*

Here, *dyimbi;* there, *mūnya;* where, *wallume;* where (is it), *wallungura;* where (dual), *wallumbulan;* yes, *namai;* no, *dhubūlga;* to-day, *nyinyanga;* to-morrow, *ngangara;* by and by, *maiarngan;* long ago, *nungadhanambu;* how (was it done), *yungaminninda;* when (was it done), *nguddaganganda.*

*Prepositions*

In front, *burrin-bung'a;* behind, *bunnhonga;* around, *gullag-wiangga;* between, *tumuramanga;* inside, *kikago;* outside, *kai-kudha;* up (a river), *wunbainangadha;* down (a river), *dyikanan-gadha;* up (on top), *gunnagadha;* this side (as a stream, rock, etc.), *dyimbiangga;* the other side (of a river, etc.), *yirigama.*

*Interjections and Exclamations*

These parts of speech are not numerous. Hold on! *kunyē;* *Nheh!* I don't know.

*Numerals*

One, *kurdawung-a;* two, *buḷádherabo;* three, *burauigo* (this also means a few, such as three or four); many, *nyanda.*

[1] *Journal Anthropological Institute,* XXXIV, 288–290.

## Dhudhuroa Vocabulary

This vocabulary contains about 235 words of Dhudhuroa, collected by myself from the native speakers. Words of a similar kind are placed under similar headings, in the hope that this classification will be found more convenient for reference than if arranged in alphabetic sequence. It is the equivalence of English words which will be most frequently required and therefore they are placed first.

### Family Terms

| | |
|---|---|
| Man | *dya-ba* |
| husband | *ningullale* |
| small boy | *magudya* |
| youth, initiated | *wangoa* |
| sorcerer | *wurra'we* |
| initiated man | *dyibboba* |
| elder brother | *murro'gañ* |
| younger brother | *ngulubaminni* |
| father | *mema* |
| woman | *mulla* |
| small girl | *jummaganba* |
| child, neuter | *bundyina* |
| mother | *baba* |
| mother-in-law | *ngunnung-gunnag* |
| elder sister | *mandaguni* |
| younger sister | *burrin-ga* |

### The Human Body

| | |
|---|---|
| Head | *murrewa* |
| forehead | *ngulua* |
| beard | *yerranba* |
| eye | *wūndyaba* |
| nose | *dhindiwa* |
| neck, throat | *billi'dyua* |
| ear | *mūrlamboa* |
| mouth | *lēndhewa* |
| teeth | *niyu* |
| mammæ | *birriwa* |
| navel | *biddit-bidditba* |
| belly | *bandhara* |
| tongue | *dhallañba* |
| back | *bunno* |
| arm, all | *kuttyinba* |
| elbow | *kūrunba* |
| hand | *murra* |
| leg, thigh | *kurriwa* |
| calf of leg | *murrandho* |
| knee | *dhimminba* |
| foot | *dyinnu* |
| heel | *mūnin-dyinnu* |
| fat | *kullanhu* |
| bone | *biamunnhu* |
| penis | *nugginba* |
| scrotum | *būmbua* |
| vulva | *ngurrung-goa* |
| nymphæ | *nunga-nunginba* |
| copulation | *mūnbi* |
| semen | *bulliwa* |
| urine | *dyi-wa* |
| excrement | *gunu* |

### Inanimate Nature

| | |
|---|---|
| Sun | *nau'-i-u* |
| moon | *wurraiu* |
| stars | *dyim-boa* |
| pleiades | *gūndaganba* |
| thunder | *muri-muriwa* |
| rain | *kurraiu* |
| fog | *ngur-ngurgu* |
| frost | *girraia* |
| hail | *bettima* |

| | |
|---|---|
| fresh water | *gundha* |
| ground | *guratba* |
| a stone | *duruba* |
| sand | *maiaba* |
| darkness | *dho-gōtch'-ba* |
| heat | *meninha* |
| coldness | *kurkutba* |
| rainbow | *kūlbe'awa* |
| shadow | *murriago* |
| camp | *ngu-tyu-a* |
| fire | *ngeambūnba* |
| smoke | *thumbaba* |
| food | *bummainba* |
| night | *dho-gōtch-ba* |
| morning | *dyikana* |
| evening | *dyebañ* |
| hills | *minggau-gunnedha* |
| sandhill | *nudyuru* |
| grass | *muru* |
| leaves (of trees) | *burramiyu* |
| egg | *dhūnga* |
| honey | *ngurrua* |
| pathway | *mūrdhañba* |
| shadow | *murraiago* |
| tail of animal | *dya-wa* |

MAMMALS

| | |
|---|---|
| Rockwallaby | *waiatba* |
| flying squirrel | *yiranhoga* |
| kangaroo | *yauara* |
| black opossum | *kaunga* |
| bandicoot | *bulla'dha* |
| porcupine | *dhemūnba* |
| dog | *mingga* |
| gray opossum | *dyau'-u* |
| kangaroo-rat | *burra* |
| bat | *munmalauna* |

BIRDS

| | |
|---|---|
| Laughing jackass | *kugarungga* |
| peewee | *dildilwa* |
| swan | *mulliwa* |
| crane | *kurrial'wan* |
| white necked crane | *murgoa* |
| eaglehawk | *wunnamuru* |
| black duck | *tumu* |
| curlew | *guranyillawa* |
| teal duck | *bai-a'-wu* |
| wood duck | *nanatba* |
| emu | *murri-a'-wa* |
| crow | *berrutha, wagara* |
| lyre-bird | *bullit-bullitba* |
| native companion | *birang'ganba* |
| common magpie | *gu'rin-gingga* |
| white cockatoo | *kittau'nu* |
| pelican | *gulaiguli* |
| willy-wagtail | *badyeri-dyirritba* |

FISHES

| | |
|---|---|
| Perch | *mur'roanba* |
| cod | *yūmboa* |
| black bream | *wūnnūmbē-u* |

REPTILES

| | |
|---|---|
| Brown snake | *ge-ang-gu* |
| carpet snake | *kunggaia* |
| black snake | *dyu-dyu-a* |
| ground iguana | *wūr'ura-dyaua* |
| tree iguana | *gurudha* |

INVERTEBRATES

| | |
|---|---|
| Locust | *gulangalangba* |
| blow-fly | *būmboa* |
| louse | *munnhuwa* |
| nits of lice | *dungganu* |
| centipede | *kur-rer'inba* |
| mosquito | *kirridhu* |

TREES

| | |
|---|---|
| Wattle tree | *wawaru* |
| wattle bloom | *baddalwa* |
| red gum | *gūmburro* |
| gray box | *tharringgoa* |

| | |
|---|---|
| yellow box | *bainoa* |
| cherry tree | *berwa* |
| kurrajong | *bibbanba* |
| pine | *yeddonba* |
| she-oak | *wūndyu* |
| honeysuckle | *murka* |
| ironbark | *bullutchba* |
| apple tree | *mūrrinya* |
| stringybark | *dhuddha* |
| mountain-ash | *dhum'buddhanā* |
| currant bush | *yerroanba* |
| peppermint | *wuritba* |
| white gum | *bulluba* |
| blue gum | *buneba* |
| grass tree | *dyan'-dyum-ba* |

### Weapons

| | |
|---|---|
| Tomahawk | *mutiwa* |
| yamstick | *tyu-tya* |
| spear, wood | *manduga* |
| spear-lever | *biuga, wommarua* |
| shield for spear | *birkiambu* |
| shield for club | *mūrga* |
| club, fighting | *gudyera* |
| club, hunting | *dunnung-unninba* |
| boomerang | *wūn'-ge-wa* |
| small club | *gidyu-dyurūm'bulu* |
| canoe | *mautha* |

### Adjectives

| | |
|---|---|
| Alive | *mūrboa* |
| dead | *mirriginni* |
| large | *mūrrandu* |
| small | *banyungadyi* |
| tall or long | *ginyaro* |
| low or short | *kubbalo* |
| good | *gūndya* |
| bad | *keberri* |
| red | *ngaiar* |
| white | *durrunggurra* |
| black | *dhai-u-gillu* |
| full | *gundya-yebbung* |
| quick | *werañ* |
| slow | *bagir'rimalé* |
| blind | *miki wūndyagu* |
| deaf | *miki mūrlumbagu* |
| strong | *dha-ung* |
| afraid | *wurragana* |
| right | *nebbunda* |
| wrong | *ngabun* |
| tired | *ngarmunnung* |
| fat | *kullimbu* |
| lean | *dhummindhunnu* |
| cold | *kurkutang* |
| angry | *warkamana* |
| sleepy | *ngurunguraia* |
| glad | *gangwa* |
| greedy | *ngullara* |
| sick | *id-ya-na'bi* |
| sticking | *mirgu* |
| pregnant | *ngundanya* |

### Verbs

| | |
|---|---|
| Die | *nginyanga* |
| eat | *dhunna* |
| drink | *ngumare* |
| sleep | *nyiminye* |
| stand | *tyekandyai* |
| sit | *nginggai* |
| talk | *thurgwai* |
| tell | *thungai* |
| walk | *bailai* |
| run | *binnilai* |
| bring | *matchgu* |
| take | *ngundagai* |
| break | *giginni* |
| strike | *tukkai* |
| fight | *tukkairibba* |
| arise | *bakkulai* |
| fall down | *wen'dhure* |
| chastise | *murratchbe* |

| | | | |
|---|---|---|---|
| look | *nagai* | suck | *ngūmbumai* |
| hear | *ngurrinbai* | swim | *bunggai* |
| give | *ngibbi-u* | search for | *naga-nangadha* |
| sing | *ngutchbai* | spit | *burunggale* |
| weep | *nunggai* | smell | *bādhe* |
| cook | *gutch-bai* | throw | *yerriadhe* |
| steal | *kurramago* | pitch | *wangumbai* |
| beg | *thungai* | roast | *gubai* |
| blow with breath | *imbai* | whistle | *winggillai* |
| climb | *kur'rigille'* | pretend | *butta'le* |
| conceal | *inbai* | kiss | *dhumagu* |
| jump | *bettagille* | vomit | *yakai* |
| laugh | *yagai* | dance | *ngunyare* |
| scratch | *bing-ago* | dive | *mulagale* |
| send | *yandigo* | to injure by sorcery | *yaiaro* |
| bite, sting | *bullingunni* | kill | *gunginne* |
| shine | *ngerumbunna* | | |

PARRAMATTA,
NEW SOUTH WALES.

## THE PUTNAM ANNIVERSARY

The seventieth birthday of Professor Frederic Ward Putnam was made the occasion for presenting him with an anniversary volume of Anthropological Essays contributed by his friends and associates. The publication of this sumptuous volume was made possible by a fund contributed for this purpose by some of Professor Putnam's many friends. Professor Franz Boas and Mr F. W. Hodge had immediate charge of bringing out the volume.

The contributions cover the whole field of anthropology, including somatology, archeology, ethnology, sociology, religion, folk-lore, and linguistics. A bibliography of Professor Putnam's writings is also included in the volume. The contributors of the articles are A. L. Kroeber, J. Walter Fewkes, C. C. Willoughby, W. C. Mills, C. W. Mead, W. K. Moorehead, M. H. Saville, G. B. Gordon, G. H. Pepper, Miss Alice C. Fletcher, C. P. Bowditch, A. M. Tozzer, C. Peabody, Mrs Zelia Nuttall, P. E. Goddard, S. A. Barrett, A. Hrdlička, F. Boas, R. B. Dixon, J. R. Swanton, H. I. Smith, G. A. Dorsey, G. L. Kittredge, F. N. Robinson, C. H. Toy, and Frances H. Mead.

The *Festschrift* was presented at a dinner held in honor of Professor Putnam at the Hotel Somerset, Boston, on Saturday, April 17, 1909. Professor C. H. Toy presided and introduced the speakers.

President Charles W. Eliot, representing Harvard University, was the first speaker. He touched upon the many difficulties which surrounded the early attempts of Professor Putnam in establishing the teaching of Anthropology in Harvard University, the way these difficulties were overcome, and the gratifying results of Professor Putnam's work. He spoke of the growth of the Peabody Museum from small beginnings and the development of research connected with the Museum, and he drew a parallel between the pioneer work of Asa Gray in botany and Professor Putnam in anthropology. Furthermore he expressed his pleasure at seeing a bright future for Anthropology at Harvard.

Professor Franz Boas, through whose initiative the volume was undertaken, was the second speaker. He read a long list of the learned societies which had sent felicitations to Professor Putnam on this occasion. These included various learned bodies of the United States, South America, England, Sweden, France, Germany, and Italy. Dr Boas said in part:

"I consider it a great privilege to be allowed to express to you the good wishes of your many friends — those here assembled, and of the many more who could not join us to-night to do honor to you. Many years of enthusiastic work, not only in your chosen field of science but also in behalf of every subject that has appealed to your generous sympathy, have knit firmer bonds between you and your wide circle of friends. I wish to give expression particularly to the feelings of those who are working with you toward the advancement of Anthropology. When we look back upon the growth of our science during the last forty years, three names stand out prominently among American anthropologists, — your own, that of John Wesley Powell, and that of Daniel Garrison Brinton. We owe to you the development of steady, painstaking methods of field research and of care in the accumulation of data; not detached from the ends sought by Powell, not without ideas as to their interpretation, but looking forward steadily and firmly toward a goal that cannot be attained in a few years, nor in a generation — that must be before our eyes all the time, and the attainment of which demands our whole energy. No trouble has been too great for you in the pursuit of this aim; and to your facility of creating enthusiasm among half-willing friends of science, Anthropology owes much of what it is. We can hardly turn to one of the great centers of anthropological research without finding that its very existence, or at least much of its work, is due to your inspiring personality. It is not for me to speak of the work that you have built up in Harvard University, but I have been witness to the success of your inspiration in Chicago and in New York. Without your unselfish work for the World's Fair, the Field Museum of Natural History would not be what it is. You laid the ground for the anthropological work of the American Museum of Natural History in New York, and the periods of its great anthropological activity were when you were there. In the Far West, in California, anthropological work has grown up under your influence and under your watchful eye. If I were to count the institutions that have benefited from your wise council, I might go on without end. Much as you have thus done for the advancement of Anthropology, we should not do justice to you if we were to forget the personal influence that you have exerted upon all those whose good fortune it has been to work with you. Through your kindly interest in his scientific work and in his personal welfare, you have succeeded in making every one of us your warm personal friend. It has been our desire to give permanent expression to our feeling of gratitude to you; and it seemed to us that this could be done in no better way than by presenting you with a book

containing some of the results of the investigations of your former collaborators and of those who continue work in your special field of research. Your many friends here and abroad, personal friends, patrons of science, institutions in whose behalf you have labored, and your colleagues and collaborators have joined in the preparation of the book that I have the honor to present to you in their behalf. It is meant to be a token of our friendship and gratitude, and a witness for all time to come, not only of the important services that you have rendered to science, but also of the bonds of friendship that you have established between yourself and your younger colleagues."

Professor Putnam accepted the volume and expressed with deep feeling his appreciation of the honor shown him.

President-elect A. Lawrence Lowell followed. He spoke of the opportunities which Professor Putnam had enjoyed of opening an entirely new field of research and of developing a new science which had come to be of such great importance, an opportunity not given to many.

Dr C. S. Minot spoke of the zoological side of Professor Putnam's work, of his student days under Louis Agassiz, and his work on birds and fishes. He also commented on the part played by Professor Putnam in establishing the *American Naturalist* and the furthering of scientific work by means of its publication.

Dr W J McGee, representing the Anthropological Society of Washington, was the next speaker. He said in part:

"I desire especially to signalize one feature of Professor Putnam's career which seems to me distinctively national and permanent in character. Throughout the entire formative period of the American Association for the Advancement of Science, Professor Putnam was permanent Secretary, practically the sole continuous officer of the Association; and his efforts in its behalf were ceaseless and constantly successful. This, too, was the formative period of American science. Now what the Association (which I regard as our most typical and most useful scientific institution) would have become without Putnam — who can say? Certainly his impress is large; certainly its character and standing must in no small measure be credited to him. And what American science would have been without the Association — who can say? Certainly its character and prestige are the greater because of the work of the Association and because of Putnam's efforts in its behalf. It is doubly pleasant for one coming from another center of thought to acknowledge the debt of the nation to a man and to an institution that have done so much toward preparing the way for that larger knowledge of humanity made necessary by the modern view of nature in which the resources loom so large."

Professor R. B. Dixon was the next speaker. He touched upon the work of Professor Putnam in establishing the Division of Anthropology at Harvard and the prominent part he has played from the very beginnings in the establishment and development of instruction in Anthropology in the University.

Professor Putnam then made a few closing remarks of a reminiscent nature of his early life as a naturalist and the value throughout his life of the instruction received under Agassiz and the debt which he owes his former teacher for whatever he has been able to accomplish in his scientific career. He spoke of the enjoyment he himself has taken in seeing in his lifetime his own students occupying places of honor in the scientific world.

The dinner came to a close only after repeated good wishes had been expressed to Professor Putnam for a long continuance of his activities in the field of science.

A. M. T.

# BOOK REVIEWS

*Bydrage tot de anthropologie der Menangkabau-Maleiers. Academisch Proefschrift ter verkryging van den Graad van Doctor in de Geneeskunde door* JOHANNES PIETER KLEIWEG DE ZWAAN. Amsterdam: Meulenhoff & Co., 1908.

It is only a few years ago that the study of physical anthropology in Holland met with as little popularity as it still meets in the United States. A change for the better, however, has taken place, a proof of which is, among other recent valuable publications, the *dissertatio inauguralis*, or thesis for the degree of M.D., at the University of Amsterdam by Mr Kleiweg de Zwaan, under the above title.

As a rule, the maiden effort of young medical men, and those who have entered other scientific fields, is limited in size and of little importance, but Dr de Zwaan's thesis is, in both respects, a remarkable exception. As to size, his book comprises 206 pages, large octavo, twelve long lists of measurements, a number of excellent illustrations, and a map. As to importance, Dr de Zwaan's work is not only one of the best contributions to Indonesian somatology yet presented, but up to the present time it embodies the results of the most valuable and elaborate study of the physical characteristics of the Sumatran Malays (Menangkabau). To review a work like de Zwaan's *Bydrage* in a few pages is next to impossible; the numerous minute technical descriptions and thousands of figures require close study of the work itself. The purport of this note is simply to call the attention of American somatologists to it. For those not very familiar with the Dutch language I would refer to a brief but appreciative review of the *Bydrage* by a well-known authority, Dr B. Hagen (*Zeitschrift für Ethnologie*, 41 Jahrg., Heft I, pp. 134–136), and to a lecture delivered before the Anthropological Society of Berlin by Dr de Zwaan himself (Die anthropologischen Ergebnisse der Sumatra. Reise des Herrn A. Maass. Ibid., Heft II, pp. 167–180).

A few words, however, should be said here about the *Bydrage*, and how it originated. Kleiweg de Zwaan visited and crossed central Sumatra in 1907, in company of the German traveler Alfred Maass, his chief object being a somatological study of the native Malay population of this region, until now a desideratum. In this he succeeded exceedingly well. No fewer than 569 subjects were measured, all men, of whom 498 were

examined at Taluk on the upper Kwantan river. Of the Padang highlanders 58 men were measured; of Gunung Sahilan, 13. Thus de Zwaan's material is divided into three groups, of which two, Taluk and Gunung Sahilan, are nevertheless almost identical. His material therefore constitutes, comparatively speaking, a rather homogeneous group. The Padang highlanders are a little more mixed.

De Zwaan described and measured his subjects after the method of Professor von Luschan, while in the main it is similar to that of Professor Rudolf Martin. Besides his anthropometric work, Dr de Zwaan has made observations on congenital deformations, circumcision, frequency of the pulse, temperature of the body, eye-sight, muscular strength of the hand, and finger-prints. This last subject forms a most interesting treatise on comparative dactyloscopy. No fewer than five thousand finger-prints of Menangkabau Malays were taken, probably the largest series in existence of any Oriental ethnic group. Last, but not least, a number of photographs of types were taken, and 57 plaster casts of faces made.

As some of the numerous results of de Zwaan's careful measurements (thirty-two of each man) only the following need be mentioned: The average total height of body of the men is 157 cm.[1] The Padang mountaineers are a little taller, or rather less small, than the two other groups. The average cephalic index is 82.1, or 51.7 per cent. brachycephalic. Among these the Padang highlanders are a little less brachycephalic than the people of Taluk and Ganung Sahilan. The difference between the former and the latter is also evidenced by the nasal index, respectively 69.3, 75.3. and 74.3.

It seems curious that a summary of the contents and an index are both wanting in the *Bydrage*, as these would have facilitated study of the vast amount of material contained in the book. The sketch map, indicating the track followed in central Sumatra by Mr Maass and his Dutch companion, is a poor one. This defect however is partly remedied by the excellent map accompanying Mr Maass's lecture before the Anthropological Society of Berlin (Durch Zentral Sumatra, *Zeitschr. f. Ethn.*, 41 Jahrg., Heft. II, pp. 144–166).

An interesting appendix to de Zwaan's work embodies the result of researches into the color-sense and color-adjectiva of the natives by Mr Maass. Written in German, it bears the title "363 Farbenuntersuchungen bei den Malaien Zentral-Sumatras." As Dr Hagen has already

[1] On page 178, *Zeitschrift für Ethnologie*, loc. cit., it is said that the average height of body is 175.5 cm. This must be a misprint, as the tallest man of the whole series measured reached only 173 cm.

pointed out, Farben-*empfindungs*-Untersuchungen would have been more appropriate.

H. TEN KATE.

*L'Europe Préhistorique. Principes d'Archéologie Préhistorique.* By SOPHUS MÜLLER. *Translation from the Danish* by EMMANUEL PHILIPOT. Paris: J. Lemarre, 1907. 212 pp., 3 pl., 161 figs.

The author believes civilization was transplanted into Europe from the Orient. Not much space is devoted to the paleolithic period. France is taken as a center and as the region that shows to best advantage the various stages of paleolithic culture. The reindeer epoch is lacking in Italy as one might expect, although specimens of the Solutrean and Magdalenian types are found there.

According to Müller there was in central Europe only one great period of cold after the warm climate of the Chellean epoch when he thinks man appeared for the first time. Penck and Rutot say there were two glacial epochs after the Chellean. The temperature dropped during the Solutrean and became very cold in the Magdalenian to grow milder again until the present time. He also believes the paleolithic period to be much shorter than the time ascribed to it by many geologists, notably Penck.

Only 6000 years is given for both the paleolithic and the neolithic period in Egypt, i. e. from 10,000 B.C. to 4000 B.C. For southern Europe the first epoch of the neolithic period is supposed to have begun about 5000 B.C., and the second epoch of the neolithic about 4000 B.C. These epochs began about 1000 years later, respectively, in Scandinavia.

Copper was employed first in the Orient. It was known in Egypt as early as the first dynasty, about 5000 B.C. But its use was restricted, and stone implements, particularly as cutting tools, were very generally employed until 3000 B.C. The Egyptian influence on the pre-Mycenæan civilization is noted and the characteristic stone burial cists of that epoch are described.

The beginning of the proto-Mycenæan epoch is placed at about 2000 B.C. With it appeared pottery of a new and much improved order. The paste was fine, the modeling excellent, and the ornaments in color. This epoch is known in Sicily, southern Italy, and Sardinia by the sepulture *a forno*, so-named because of its resemblance to an oven. Tombs of this type were communal and placed by preference in the flank of an escarpment. There also existed in these regions the dolmen proper. The two types of communal tomb are genetically related to the pre-

Mycenæan stone cist. Strange to say the dolmens spread to western Europe, Great Britain, and Scandinavia, but did not replace in central Europe the ancient custom of individual burials.

The epoch of transition from the neolithic to the bronze age is called the "eneolithic" and corresponds to the Mycenæan. It was preëminently the age of the poniard, the spear and the lance coming later. Properly speaking there was no eneolithic epoch in Scandinavia, although this epoch had a profound influence on northern civilization. For example, the flat-poled flint ax so characteristic of the north, and which is more recent than the flint ax with pointed pole, seems to have been copied after the copper axes of southern Europe at a time when metal was rare in the north and flint was plentiful. The dolmen also that characterized the eneolithic of the Mediterranean countries was introduced into Scandinavia during the first part of the neolithic period. The flint mines of Sicily and of Belgium are of the same type; but the former were worked by an eneolithic people and the process was borrowed by the races of Belgium before they emerged from a purely neolithic age. Not only flint but also obsidian remained an article of merchandise well into the bronze age. Obsidian is easily traceable to its original sources in Italy, Sicily, and certain islands of the Ægean sea. The finest example of the diffusion of flint from a single source is that of the Grand-Pressigny (Indre-et-Loire) which is recognized by its color and has been traced not only all over France but also into neighboring countries.

Müller enumerates the fundamental principles that should guide one in studying the relations of the central to peripheral civilizations as follows:

1. Southern Europe represented the active productive civilizing force, while the countries to the north being peripheral played a receptive rôle.

2. The civilization of the south was transmitted only in abridged and modified form, subject in the more remote regions to a further development along entirely new and original lines.

3. Types of tools, weapons, apparel, and ornaments may persist with but little change for a considerable lapse of time.

4. Elements which along the Mediterranean belonged to successive periods may become contemporaneous in the peripheral regions.

These principles were understood by the men who founded the science of prehistoric archeology during the last century. Müller believes that Montelius would make the prehistoric epochs of the peripheral region follow too closely those of the center. He also does not agree with

Penka that Scandinavia itself was a center, a source of civilization; nor with Reinach who regards Europe as independent from the Orient.

A chapter is devoted to the closing epoch of the neolithic period in the north, where stone art reached its apogee. The finest examples are the flint poniards that are so common in the dolmens of this epoch and that have their prototype in the bronze age poniards of southern Europe. No such development of the later neolithic is to be found in the countries bordering on the English Channel because the development in stone art was cut short by the introduction of metal at an earlier period.

Considerable space is given to the Mycenæan civilization which reached its zenith about 1500 B.C. It is pointed out that the dwellings of the period were not of a permanent character, while the houses of the dead were built for eternity. "The tombs with cupola of Greece and the giant dolmens of Denmark are derived from the same conceptions of life and death and are fundamentally one and the same thing. Nothing better than these monuments could reveal to us the unity of European civilization, and at the same time nothing shows more clearly the differences between the south and the north during the second millennium B.C."

Iron was known in Greece toward the close of the Mycenæan epoch, but was employed only for small objects. Bronze was the metal in general use. One could therefore speak of this epoch as the bronze age. But Müller prefers Mycenæan for Greece and bronze age for the rest of Europe, where the civilization was much less rich though derived from the same source, i. e. from the Orient through Greece. The typical weapon of the bronze age was the poniard. The sword came later, not before the close of the period. The fibula made its appearance here and was the point of departure for the development of feminine ornament during the epochs to follow, and after having fallen into disuse for ages has only recently reappeared in its original form but with another name—safety-pin.

One remarkable prehistoric phenomenon is the plentitude and decorative richness of the bronze age in Scandinavia and the mediocrity of the same civilization in western Europe. The latter was received indirectly by way of Italy while the former came directly from the Orient. In all western Europe from Spain to Great Britain there is not found a single fibula of the bronze age type. This absence joined with that of the spiral ornamentation is proof that the Occident was farther removed from Greek influences than were the Baltic countries. The Mycenæan culture is supposed to have reached the north by way of the Adriatic, western Hungary, and Bavaria.

The lake dwellings form an interesting phase of the prehistoric in Europe. They are grouped about the Alps: Switzerland, southern Germany, Savoy, northern Italy, and Austria (including Croatia and Hungary). The structures were quadrilateral, a fact suggesting Mycenæan influence. At least 200 village sites have been discovered in Switzerland alone since the winter of 1853-54. These belong to different epochs, the later neolithic, bronze, and iron ages respectively. Some in fact were inhabited during successive ages. The purely bronze age stations are found farther in the water than are the purely neolithic.

Just as curious in their way as the lake-dwellings are the terramaras of northern Italy. This is a corruption of "terramarna," a name which was given to the low flat hillocks in the valley of the Po from which a fertilizing earth has been extracted since early in the eighteenth century, long before the real significance of the deposits was known. They owed their existence to pile dwellings built on land but protected by water artificially regulated. Over a hundred have been explored thus far. The finest one is at Castione, northwest of Parma. Its present height above the plain is only three meters, but the thickness of the deposit is five and a half meters. Three successive villages had stood on the spot, the first two having been destroyed by fire. The terramaras represent preeminently a bronze age culture that came from Greece by the way of southern Italy.

The Dipylon epoch in Greece witnessed the appearance of a special geometric style of decorative art, consisting of straight lines and meanders. This art, developed about 1000 B.C., was not original and spontaneous. Although it consisted of old elements, these were brought together to form a new and harmonious ensemble. The same motives were in use a thousand years later in Scandinavia. Figurines of the horse characterize this epoch. Gold and silver were scarce. The use of iron became general.

The Dipylon epoch gave Italy its first iron age, which in its turn became the point of departure for a new period of civilization in the other countries of Europe. This period in Etruria was characterized by cinerary urns of coarse paste, made without the use of the wheel and with incised instead of painted ornaments. The motives, however, recall those of the Dipylon epoch in Greece — zigzags, meanders, etc. All sorts of small objects were placed with the dead — among others the bronze razor with a single edge in place of the earlier two-edge razor; also, a new type of fibula with highly arched body instead of the Mycenæan type. There appeared at this time a sword with a hilt terminated

by two branches — a type destined to play an important rôle north of the Alps as far as Scandinavia.

The first iron age in Italy is generally called the first Villanova epoch (1000 B.C.). It is also called the epoch of well-shaped tombs, *tomba a pozzo*. The second epoch of Villanova reveals an increasing Greek influence accompanying a local original development. Incineration gave place by degrees to interment; and ancient linear ornament was succeeded by life forms repeated in series to form zones, recalling the Dipylon style. Much progress was shown in the construction of tombs, as witness the celebrated tomb of Regulini-Galassi discovered in 1836 at Cervetri. After the fall of Carthage, Greek influence practically superseded the Oriental in Etruria, after having given to Tuscany its money, alphabet, architecture, industry, and divinities. Hellenic civilization crossed the Appennines and invaded the Po valley. The best evidence of this is afforded by the Certosa cemetery at Bologna.

The first iron age of central Europe had its sources in the recent Villanovan civilization of northern Italy. It is commonly called the Hallstatt epoch from the village of Hallstatt in Austria near which was discovered a prehistoric cemetery representing the entire period. But the Hallstatt civilization was as restricted in area as it was distinctive in character. This limited zone became a center of civilization for the contiguous countries, which for the greater part were still in the bronze age. This was particularly true of Hungary, Scandinavia, and Switzerland.

The second iron age, or epoch of la Tène, dating from about 500 B.C., is better known than the Hallstatt epoch. We know that toward the close of the latter period there arose in what now corresponds to France and Germany a special civilization which reached its zenith during the fourth century B.C. There was created at the commencement of the period a decorative Celtic style of such value and refinement as to be considered not only original but also national. Yet in the last analysis these motives are derived from the palmette and classic volute. The Celtic period may be divided into two epochs: an older corresponding to the Gallic domination and a younger represented by the discoveries at la Tène on Lake Neuchâtel. The two halves of the Celtic period were of unequal merit, the latter representing an epoch of decadence. The period left its traces in Scandinavia, some of the specimens being of excellent workmanship. In both Scandinavia and Great Britain the bronze age was prolonged into the epoch of la Tène.

The movement of civilization in western Europe during the epoch of la Tène had its counterpart in the region to the north of the Black sea where

the cemeteries of the time have furnished such a surprising quantity of beautiful objects of art, particularly gold ornaments. This rich period may be placed between the fifth and the second centuries, B.C. As one penetrates farther into the interior of Russia the indigenous Scythian art makes itself felt more and more. It is characterized by animal figurines or simply the heads of animals used ornamentally. A good part of Scythian art and industry came direct from Asia and eventually spread its influence over northern Russia and into Hungary.

Rarely has a victory had for the history of civilization such vast consequences as the victory of Alesia, 52 B.C., by which Cæsar vanquished the last armies of Gaul. After this the frontier of the prehistoric domain retreated rapidly toward the north. The Germanic world came into direct contact for the first time with the classic civilization of the south.

During the epoch of invasions there was a marked development of provincial industry. The Roman bronze vases, for example, were no longer made in the south for exportation, but in the region of the Rhine and in France. The sixteen beautiful pails from the cemetery of Hemmoor near Hanover are examples. One often finds Roman motives in use, but under forms scarcely recognizable. Among the most remarkable specimens of this kind belonging to the epoch of invasions must be classed the celebrated golden horns of Gallehus in Schleswig. To this period also belongs the Roman silver service found at Hildesheim.

Differences are pointed out between the recent Celtic civilization of Germany and that of Great Britain and Ireland. At the time the Romans gained a foothold in England local Celtic art had reached a high stage of originality and development. Celtic elements were even borrowed by the Romans, whose political domination over the land did not exercise any marked influence on the national art, which continued without interruption, particularly in Scotland and Ireland, and which culminated in the heroic and legendary Celtic period of the first 500 years A. D.

The last two chapters are devoted to the closing epochs of prehistoric times in Scandinavia (500 to 1000 A. D.), and to Finland and the Slavic countries.

Müller, who is director of the National Museum of Danish Antiquities, has been known for years as a gifted writer on northern archeology. The present volume maintains the high standard the author set for himself in earlier works. Each chapter is accompanied by a selected list of references. One misses, however, an index, which is all but indispensable in a work so important as this. The next general work on prehistoric Europe will in all probability devote more space to the contributions of such

men as Rutot and Penck; those of the former on pre-Chellean industry and those of the latter on the antiquity of man from the standpoint of glacial geology.

GEORGE GRANT MACCURDY.

*Prehistoric Japan.* NEIL GORDON MUNRO. Yokohama: 1908. 8°, xvii, 705 pp.

A considerable part of what has been written on the prehistoric archeology of Japan is in English, but the articles are so scattered through periodical publications, and the books, mostly printed in Japan, have been so difficult of access, that the material is almost unknown. How will a student procure a copy of H. von Siebold's *Notes on Japanese Archæology*, or of Morse's *Shell Heaps of Omori*, or of Kanda's *Notes on Ancient Stone Implements, etc., of Japan?* Let one, who thinks he knows, try. Hence we welcome this great work by Munro, which not only brings together all that his predecessors — Morse, Milne, von Siebold, Kanda, Hitchcock, Gowland — have said, but adds a wealth of new materials based on the author's personal field-work, museum study, and literary research. Munro draws largely on the by-no-means insignificant Japanese literature of the subject, a source absolutely inaccessible to most students. The result of his labors is this bulky volume, quadrupling our knowledge of its field. The work is abundantly illustrated with more than four hundred engravings, for the greater part half-tones. The author had free access to both public and private collections, and among his illustrations many choice or unique specimens are represented. Munro recognizes two clearly-defined cultures in Japan, with traces of a third. The earlier, "Primitive Culture," is "attested by the existence of over four thousand residential sites and shell-heaps." Metallic objects are absent; implements and weapons of chipped and polished stone, coarse hand-shaped pottery, objects of horn and bone, and heaps of refuse remain to represent it to us. The second, "Yamato Culture," was marked by the erection of sepulchral chambers, dolmens, etc., and by the excavation of caves; the relics do not include stone *weapons*, although there are curious stone copies of sheath-knives and swords, usually of diminutive size, and occasional stone copies of bronze arrowheads; some problematical *implements* of polished stone occur, as mortars and other utensils, and various forms of stone *ornaments;* arrowheads, jingle-bells, and mirrors of bronze, copper objects often plated with gold or silver, swords, horse-trappings and other iron articles and wheel-turned pottery, characterize this culture. Suggestions of a third, "Intermediate Culture," are given by objects

found in the south, where a bronze-using culture may have intervened between the Primitive and Yamato phases. Bronze swords, halberds, and arrowheads are found in the soil in Kyushiu and in some provinces bordering upon the Inland sea; bronze bells are found as far east as Yamato. These objects are found neither on stone-age sites nor in Yamato tombs. After a preamble in which these general outlines are presented, the author discusses the evidence in a series of chapters on Neolithic Sites, Habitations, Implements, Utensils, Weapons, Ceramic Art, Daily Life, Intermediate Pottery, Some Bronze Vestiges, Yamato Sites and Sepulchres, Yamato Relics of Metal and Stone, Yamato Pottery, Daily Life, Religion, The Prehistoric Races. In his final chapter Mr Munro considers the Ainu, now confined to northern Japan. He discusses the question of an earlier population, preceding the Ainu, but finds no evidence for assuming its existence. Into the composition of the modern Japanese, Munro claims that Malayan, Negrito, Mongolian, Palasiatic (= Ainu), and Caucasian elements enter. It is the early days of this blend which are exhibited by the Yamato Culture. One feature of especial interest in Munro's treatment is his frequent presentation of survivals of ancient things into modern Japanese life. This book as a whole meets a real need. Unfortunately, it may prove to be almost as difficult to obtain as are the earlier, less complete works upon its subject, as we are told that almost the entire edition has been destroyed by fire. If this is true, it is much to be hoped that the book may be reprinted.

FREDERICK STARR.

*Wissenschaftliche Ergebnisse meiner Ethnographischen Forschungsreise in den Südosten Deutsch-Ostafrikas.* KARL WEULE. Berlin: Ernst Siegfried Mittler u. Sohn, 1908. 4°, 150 pp., 63 pls., map.

This notable contribution to African ethnography, by the director of the Ethnographic Museum of Leipzig and professor in the University of that city, is remarkable in many ways. It is the first of the series of *Mittheilungen aus den Deutschen Schutzgebieten* to be issued under the editorial direction of Dr von Danckelman, himself a traveler in and student of Africa. These *Mittheilungen* are to be issued at least once quarterly as *Wissenschaftliche Beihefte zum Deutschen Kolonialblatte* and are to deal with the German colonial areas of Africa and the South Seas. They will be issued at a marvellously low price, little if anything above their cost of production. That all will deal with ethnographical subjects is not to be expected, but if one in four reaches the high level of this initial number, both the student and the editor may be congratulated. The area inves-

tigated by Dr Weule is indicated in his title. For the greater part he was upon what is known as the Makonde plateau. The tribes studied were the Jao, Makua, and Makonde — and, to a less degree, the Wangoni. Of the Jao and Makua we have some material, linguistic and otherwise, from English workers, but for serious ethnographic study the three tribes were almost a virgin field. Dr Weule's original plans were changed by the fact that the area he proposed to visit had just been the seat of an outbreak. Landing at Daressalam on June 1, 1906, he reached Lindi on the 22d and left for his field of study on July 11; he reached Lindi on his return march November 17. Four months were devoted to actual field-work — unceasing and laborious investigation and collection. From early morning to late at night Weule worked, in spite of fevers and the distraction of attending to the many petty details of the expedition. He was fortunate, however, in having with him a companion who, though not an ethnographer, had had years of experience in that region and knew the people and something of the languages: this was one of his greatest assets. The expedition was notably successful. Professor Weule has already made brief reports of his journey; his museum collections will be fully described and illustrated in a publication of the Leipzig Museum of Ethnography; his study of art development as illustrated by these peoples will form a special monograph; his phonographic records will be made the material of a report by Dr von Hornbostel of the Psychological Institute of Berlin University; his linguistic material will be handled by Professor Meinhal; and the strictly scientific presentation of his entire work will be printed shortly. Meantime, the volume before us gives a clear and interesting account of the expedition itself, the methods of investigation pursued, and a brief statement of the matters of especial interest which from day to day occupied attention. The illustrations are from the author's own photographs and sketches. The work is not so profound as to be uninteresting to non-professional readers, but it is so full of new material that it is a true contribution to ethnographical science. Several of Weule's plates have notably suggestive value. Thus, the grouping on plate 1 of a series of sixteen small portraits, uniform in style and size, to show types of cicatrization, nose ornaments, lip- and ear-plugs, is a model of its kind. Again, in illustrating technique, Weule does not content himself with a single picture of the artisan at work, but presents a series of pictures side by side, representing steps and stages in the work. The idea is best developed in the plate showing a Wangoni woman making pottery; twelve small pictures present the operation. The idea is excellent. The result is the "moving picture" in all but

the actual rotation of the film. We would gladly enter into many details relative to Weule's material, but space does not permit. A few will be mentioned, merely by way of suggestion.

The author lays stress upon the boys' and girls' festivals, through which they enter manhood and womanhood. These rites of passage are always interesting, but the traveler has rarely the fortune to see much of them. Weule discusses them among Jao, Makua, Makonde, and Matambwe. Most of his matter was obtained through careful and persistent questioning of many individuals, both men and women. He himself saw several ceremonial houses and was so fortunate as to be present at part of some of the actual ceremonials. As elsewhere these rites are performed by groups of boys and girls, isolated in special houses in more or less retired spots, where they are for a time under instruction regarding sexual and social rights and duties; the participants go in as children, they come out as men and women. The discussion of the wearing of the *pelele* or lip plug is exceptionally interesting. It occurs among the women of most of the tribes studied, but reaches its culmination among the Makonde. There it is not only maintained in full vigor but is perhaps carried to a degree never before reached. The maximum size of the *pelele* is attained among women from twenty to thirty years of age. Weule saw examples which measured 7.5 centimeters in diameter. The *pelele* is usually colored white, which renders it a conspicuous object. The old women are those who most tenaciously wear plugs of largest size. Most important are our author's observations on the hygienic, physiognomical, and linguistic effects of pelele-wearing. The lip loses its force and elasticity; in time the plug flaps down, dragging the lips over the mouth in what to us is a most disagreeable fashion, instead of holding the lip out like a horizontal shelf. The teeth are affected by their constant exposure and caries sets in. Special strains produce peculiarities of facial expression. At times the lip itself is torn through, with the result of imitating a natural hare-lip. This injury can sometimes be repaired and the lip restored, even to the degree of permitting again the wearing of the *pelele*. Weule believes some peculiarities in the language are due to the use of this plug, and, as these peculiarities of pronunciation are general and not confined to the women, he raises the question whether men did not formerly wear the *pelele*. In some of these tribes devices for catching or trapping animals are numerous and ingenious. Weule paid special attention to these. In his collection all the smaller forms occur and miniature models of all the larger ones. He personally investigated the exact method of placing, baiting, and setting all. While he reserves a full discussion until later, the

outline of the subject, which he here presents, is the nearest to a monograph which we know. The significance of this great series of traps and snares is considerable ; in few lines are the keen observation, clear thought, and ingenious grappling with practical problems of the dark man better shown. Weule makes some interesting additions to knowledge of tribal subdivisions, social organization, inheritance, and suggestion ; he presents several genealogical diagrams showing the descent and succession of chiefs with whom he came into relation. These require much labor but are well worth while. In closing, one minor observation may be noticed. Weule found young Makua girls carrying pebbles in their mouths. He believes this a before-unpublished novelty. I have observed it in the Bakuba country, where some of the females in Ndombe's household practise the custom. In the Bakuba, as among the Makua, the bearers seem to select clear pebbles, probably of quartz. Of the Makua practice Weule says : "Of these stones, the young Makua maidens carry a variable number, at least two, but sometimes six, eight, or even more, in the mouth under the tongue. . . . As in a nest, so these glittering pebbles lie beneath the tongue." Weule's book is a significant contribution to Bantu ethnography. That this is appreciated is shown by the fact that an English translation by Miss A. Werner has just been announced. This will be good news for students who would have difficulty with the original text.

FREDERICK STARR.

*Etudes sur les Sources de l'Ethnographie congolaise.* EDOUARD DE JONGHE. Louvain : 1908. 8°, 26 pp. (Extract from *Museon*, No. 1, 1908.)

*L'Activité ethnographique des Belges au Congo.* EDOUARD DE JONGHE. Bruxelles : 1908. 8°, 26 pp. (Extract from *Bulletin de la Société belge d'Etudes coloniales.*)

Dr Edouard de Jonghe has recently issued two pamphlets relative to the materials for Congo ethnography, under the titles *Etudes sur les Sources de l'Ethnographie congolaise* and *L'Activité ethnographique des Belges au Congo.* In connection with launching the important series of *Ethnographic Monographs*, now publishing in Belgium, Dr de Jonghe considers it desirable to have a clear idea of the sources from which their matter is drawn and some criteria of judgment relative thereto. As being well known, particularly interesting, and the subject of the first of these monographs, he considers the sources of information regarding the Bangala. The first known contact of this people with the whites was in 1877, when Stanley made his famous trip down the Congo. They have since been in constant contact with whites and are changing under

the foreign influence. The rapid changes now going on among all Congo peoples emphasizes the importance of preparing the monographs dealing with them *now*. Data regarding the Bangala are relatively abundant. Three classes of informants supply them — employees of state and companies, missionaries, and travelers. De Jonghe indicates the qualities of a good observer and suggests the preparation desirable for such. He examines the work of observers of the Bangala in their order. Coquilhat, Lothaire, and Hanelot are the government officials who have contributed something worth while. The Catholic missionaries, Cambier, van Ronslé, Garmyn, de Dilde, Geens, and de Boeck have furnished reports to their societies and done linguistic work. Of Protestant missionaries, Comber, Weeks, and Stapleton are mentioned. Among travelers, Gustin, Wilverth, Briart, and Deligne (Belgians), and Baumann, Ward, Gleenip, and Westmarck are named. The character and value of the work of each of these is judged. Lastly the work of Dr Victor Jacques, who made anthropological examinations of the Bangala at the Antwerp and Brussels Expositions, is mentioned.

In his second paper Dr de Jonghe starts with the proposition that "the efficacy of every work of colonization is measured upon the degree of knowledge, more or less exact, of the mentality of the native population." Thus emphasizing the importance of ethnography, he asks whether the Belgians have shown a desire to study the Congo peoples. What methods have they employed? What progress have they so far realized? He distinguishes two periods in Belgian ethnographic study — that of the great explorations and that of the regular systematic occupancy of the country. The former yielded little; the latter more. No fixed date marks the close of the earlier, the beginning of the later period. Penetration has been gradual and the limit between the two varies with locality. In a general way, however, 1897 may be considered the date closing the period of great explorations. That year is also notable for the great Exposition at Brussels, which did much to arouse interest in Congo natives — many being there displayed — and led to the establishment of the Congo Museum. Out of these grew a somewhat serious and systematic work of investigation. The Anthropological Society of Brussels and the Society for Colonial Studies prepared questionnaires and made an effort to arouse true observation among and by those who went to the Congo area. De Jonghe takes up area after area, people after people, and in a few words characterizes the studies so far made by Belgians. By an abundant use of footnotes he refers to an abundant material of information. He also mentions the various agencies of in-

vestigation — societies, publications, etc.,— in chronological order. He distinguishes the monographic from the synthetic method of study, the latter relatively undeveloped — and closes with some suggestions as to results to be expected and methods to be pursued.

FREDERICK STARR.

*Collection de Monographies ethnographiques.* CYR. VAN OVERBERGH, with the collaboration of ED. DE JONGHE. Bruxelles: Albert de Wit. 8°. No. I, *Les Bangala*, 1907, pp. xv, 458. No. II, *Les Mayombe*, 1907, pp. xvi, 470. No. III, *Les Basonge*, 1908, pp. xvi, 564. No. IV, *Les Mangbetu*, 1909, pp. xvi, 594.

This is the first serious attempt to present Congo ethnography. That the work has been influenced by Herbert Spencer's *Descriptive Sociology* is shown by the general title *Sociologie descriptive* appearing upon all the volumes. The idea of the collection developed from the World Congress held at Mons, Belgium, in 1905. There concerted effort in collecting, extracting, and combining existing knowledge regarding all the peoples of the world was urged and an international committee was appointed to organize and systematize a uniform world-wide ethnographic investigation. Belgium, the United States, England, Germany, France, Austro-Hungary, Holland, and Switzerland are represented in this committee, the secretary's headquarters being at Brussels. The plans of the committee include the preparation and distribution of a questionnaire, or a series of questionnaires, throughout the world, and the unification of results. Preliminary to this, and before vigorous efforts are made to accumulate new data, it is desirable that existent material should be collected, digested, and re-presented in convenient form. Van Overbergh here undertakes the task of doing this for the Congo area. He takes the *Questionnaire* already issued for use in that region by the Société belge de Sociologie as the foundation for his arrangement. So far four volumes, each dealing with a special population, have been issued. The first number, treating the Bangala, shows the scheme and plan of the series. The published data regarding this people are here gathered, sorted, and presented in the order of the 202 questions which make up the questionnaire above mentioned. Each item is presented in the exact words of its author (i. e., untranslated) and the reference to its original source is always given. The matter is presented under bold-faced numerals, which refer to the sections of the questionnaire, so that any reader can turn at once to any special matter he may be seeking; thus, if he wishes data relative to religious ideas, he turns at once to the matter under the bold

numbering 100 to 122. The material is printed on pages perforated near the inner margin so that it can be easily detached. Thus any student may rearrange the material in any way to suit his convenience, or can bring together from different volumes all the material relative to a single theme. A small amount of original matter, heretofore unpublished, secured by oral or written inquiry, is also incorporated. The most significant of this new matter is communicated by Commandant Lothaire, who knows the Bangala as few do. A novel though difficult feature of the plan is to keep the work *au courant* with the literature, by issuing loose additional leaves from time to time upon which shall be new matter. These leaves will be supplied to subscribers at small cost. The idea is excellent; is it practicable? A *Bibliographie* and an *Iconographie* will be included in each volume, and will serve to direct the student to original sources. In the Bangala volume more than two hundred and twenty sources have been utilized. The aid to the student will be best appreciated when it is realized that most of these documents are practically inaccessible in the United States. Probably less than twenty-five per cent. of these articles and books can be found in our best-equipped centers of study. This renders van Overbergh's series essential to every one who plans to study the ethnography of this field.

Your reviewer indeed dislikes all questionnaires, but recognizes quite fully that they are necessary evils. They cramp and warp and worry the true field-worker; their artificiality is destructive of spontaneity; their exactions lead to unintentional and unconscious fabrication, suppression, and distortion. On the whole, these evils are worse for the field-worker than for the editor at home. In this series they will less affect the printed sources than the orally-examined ex-official's statements.

We lack space for detailed consideration of the contents of the volumes, but must be allowed a few words of comment upon each. The Bangala, of Central Africa, are typical river-folk. Their notable cicatricial forehead crest, their aggressive and progressive disposition, their flagrant cannibalism, their ready response to white man's contact, have made them well known. It was the Bangala who attacked Stanley on his famous journey down the river and who cried "*Nyama, nyama!*" at him and his people. The word means "animal" and "meat," and Stanley considered the cry as evidence of the cannibalism of this brave people. The incident has many times been quoted and always with his interpretation. Notwithstanding the thirty years' acquiescence in his dictum, I doubt its accuracy. I do not believe his Bangala cry of "Meat, meat!" significant of their desire to eat him. My African boys

regularly, when angry, called each other "*nyama*," beast or brute. Probably the Bangala cry at Stanley was the same — derisive and contemptuous, but not hungry. This criticism of course is not intended as an argument against the existence of cannibalism; it was there, and still *is* there. The Bangala were practically the first Upper Congo people to enter the white man's service, and for years they have supplied the crews and wheelmen of the river steamers. They have been a potent help in the work of development, and it has been possible for one writer to say: "The Bangala are to-day greatly attached to the whites, whom they have accompanied in all their peregrinations across the mysterious continent, and they say with pride 'Everywhere where, in Congo, a white man is buried, at least one Bangala lies by his side.'" One thing painfully impresses the reader of these volumes; we rarely get below the surface; plenty of writers describe villages, houses, dress, gardens, canoes, — few have aught of value to say upon religious ideas, social structure, and the like. Few trained observers have ever been in Africa. In the volume *Les Mayombe* the editor introduces some slight changes, as the result of criticism, or friendly advice. Thus, far more development is given to the topics 2 and 186 in the Questionnaire. Topic 2 concerns the *milieu;* topic 186 deals with relations with white men. Frankly, we think the editor overdoes both. Everyone admits the importance of information relative to the environment in which a people lives. Both sociologists and ethnographers demand some information of that kind in order to trace influences upon culture. But surely they do not need such a sketch of the Mayombe geology as Professor Cornet has obligingly prepared; nor do they need descriptions of a long list of forest woods. As *ethnographic*, the monograph is frightfully overloaded with such material, excellent enough in its place. Nor are a lot of descriptions of the tropical forest necessary, if two will convey all the information that a dozen will. Many of the Congo populations dwell in the forest; if we are to have a dozen volumes on forest dwellers and each gives a dozen descriptions of the forest, as ethnographers we shall be surfeited. The importance of data under No. 186 to the sociologist is so considerable that the ethnographer will waive his rights to some degree, but he really needs little upon details of colonial management, missions, preaching, and mission schools.

In *Les Mayombe* the editor introduces far more new and before unprinted matter. In reality comparatively little has been printed about the Mayombe. Very much is here given from officials in answer to personal interrogation. In his prelude van Overbergh tells us something of

these informants that we may know their competence. In this new matter the weaknesses of the questionnaire method show up strongly. To answer the carefully formulated questions the worthy gentlemen cudgel their brains to make some statement, whether they really have aught to say or not. Much of this matter is really worthless; this is not the fault of the men, it is the fault of a questionnaire, which *must* be filled. So far as the Mayombe are concerned they are a Lower Congo people, dwelling in the forest, in a considerable area lying back from and north of Boma. The country was a true "slave preserve" in the old days. Many, no doubt, of our American slaves came from that region. We cannot but wish that our editor had given us more clearly his grounds for treating the Mayombe as an ethnic unit. With what is it equivalent in taxonomic value? Is it really a term of the same order as Bangala, Mangbetu, Basonge? In *Les Basonge* we have no innovations. The editor has settled upon precise methods and the series has passed its experimental stage. The Basonge live in the Kasai district, upon the Sankuru and around Lusambo as a center. Pogge and Wissman found them a flourishing people with fine cultivated fields and great villages. They were people with a fine art spirit, and their iron-work was and still is famous. Unlike most Congo peoples, the Basonge held agriculture in so high esteem that men labored in the fields. The next white visitors found the country a land of desolation due to Arab invasion. Nothing better shows the uncertainty of African conditions than Basonge history. Our authorities for this second period are the participants in the Arab war — Fivé, Dhanis, Marinel, and others. Since that time a new prosperity has come. The late authorities are those officials who have been in charge at Lusambo and other parts. Best of these is Magistrate Robert Schmidt, who, while still at his station, took the trouble to conscientiously fill out the questionnaire of the Société. The whole of his matter is included in the volume and is undoubtedly the best *new* matter so far contained in the whole series. In the fourth volume, the Mangbetu are considered, Schweinfurth's Monbuttoo. Few books of travel have made the impression that his *The Heart of Africa* produced, and few tribes have been so really appreciated as his Monbuttoo; few native chiefs are so definite figures in the popular mind as King Munza. *Les Mangbetu* makes a bulky volume, running to nearly six hundred pages. Here again much unpublished matter is presented; of the several authorities Laplume and de Rennette deserve especial mention. The Mangbetu are still much as their earliest visitors paint them. On the whole our best informants are still Schweinfurth and Junker — and Casati. The best recent

printed matter is due to Christiaens. These *Monographies ethnographiques* of van Overbergh are truly the beginning of a vast enterprise, which is being well done and deserves encouragement. We shall hope to call more specific and detailed attention to the later volumes as they are issued.

FREDERICK STARR.

*Mission Scientifique G. de Créqui Montfort et E. Sénéchal de la Grange. Antiquités de la Région Andine de la République Argentine et du Désert d'Atacama* par ÉRIC BOMAN. Tome Premier contenant 2 Cartes, 32 Planches et 28 Figures dans le Texte. Paris: Imprimerie Nationale, 1908. 8°, xi, 388 pp.

This fine volume (a second containing an ethnographic study of the modern Indians of the Puna de Atacama, folk-lore of the Argentine Puna, archeological data, etc., is to appear shortly) is further evidence of the excellent work being done in the Atacaman and "Calchaqui" region of the Argentine, etc., by M. Boman. Pages 1–79 are taken up with the consideration of an ethnic map of the Andean region between 22° and 33° S. lat. in the sixteenth century. The next section (pages 81–212) treats in general of the archeology of the Diaguite or "Calchaqui" region — territory, ruins, art and manufactures, burials, petroglyphs, folk-lore, relations with ancient Peruvian culture. Then follow detailed archeological sections on La Paya (pp. 213–246), Valley of Lerma (247–318), La Quebrada del Toro (319–382). A bibliography of several hundred titles, to which references are frequently made, is to form part of the second volume. The present volume deals with researches made by the author in 1903 as a member of the G. de Créqui Montfort and E. Sénéchal de la Grange scientific expedition to the northwest of the Argentine. Previously, in 1901, M. Boman had shared in the Swedish expedition under Baron E. Nordenskiöld and investigated part of the Puna de Jujuy and the adjoining Bolivian region; and before that he had traveled in Catamarca and Tucuman. The historical sources of the ethnic map are Pedro Sotelo Narvaez, Alonso de Bárzana ("the Apostle of Tucuman"), Nicolas del Techo, Pedro Lozano, José Guevara, Pierre-François-Xavier de Charlevoix, etc. M. Boman restricts the term "Calchaqui" to the Calchaqui valley and its southern continuation, the valley of Yocavil (p. 96), using, as the larger and more general appellation, "Diaguite." The Calchaqui people and culture are for him a branch or division of "the Diaguites, who constituted an ethnic unity (both cultural and linguistic)," occupying, at the time of the Spanish conquest, "all the

mountainous region of the present Argentine territory from the Nevado of Acay and the Valley of Lerma at the north, to probably the Province of Mendoza at the south, except the Sierra de Córdoba, inhabited by the Comechingons, whose culture was somewhat related to that of the Calchaqui, but whose language was distinct from the Cacau, the general speech of the latter" (p. 12). Of the many Diaguitan tribes the Calchaquis, who stubbornly resisted the Spaniards, were the most famous. The Diaguitan languages are long since extinct, but archeological evidences abound in the area in question. Beyond the Andes on the west were the Araucanians, but whatever relations existed between them must have been established by Inca-Peruvians. The Huarpes (Allentiac), M. Boman thinks, were a savage, allophyllic people, not related to the nations of the Andean valleys. The Comechingons of Córdoba did not speak the Cacau language, nor did the Sanavirons and Indamas. The affiliations of the Tonocotés and Lules are still subject to some doubt from the linguistic point of view. The Atacaman stock occupied the desert of Atacama and the Puna de Jujuy (Sta Catalina, Rinconada, Cochinoca, Casabindo). The Uros or Changos, a savage people occupying the Pacific coast from Cobija to Huasco, the author identifies (without sufficient proof, however) with the Uros of the Titicacan region, whom he separates altogether from the people who spoke the Puquinan tongue, suggesting that "the Changos or Uros seem to be the last remains of an ancient people, who inhabited the country before the Yuncas, Quichuas, and Aymaras" (p. 70). The Omaguacas of the Quebrada de Humahuaca, etc., to the east of the Puna de Jujuy, spoke perhaps the language called Ocloya. The neighbors of the Ocloyas were the Guaycuruan Tobas. The name "Juris" found in the early documents seems to have been employed in a loose way, as e. g., was "Chunchos" in Peru.

The Diaguitan region is rich in pre-Hispanic ruins, which, however, "have nothing in common with the megalithic monuments of the great period of ancient Peru, but resemble rather what remains of the common buildings of the pre-Hispanic inhabitants of the high Peruvian and Bolivian plateau, described by Father Cobo" (p. 97). In the Diaguitan region, in pre-Hispanic times, lime mortar was unknown, stone walls with earth as mortar exceptional, and adobe walls rare. The most common ruins are *pircas*, or low, rudely circular or rectangular walls of stones without mortar, serving as the foundations or walls of dwellings. Fortified villages also occur (as at Loma Jujuy, Cerro Pintado, Fuerte Quemado, etc.). The chief ruins hitherto recorded in the Diaguitan region are: La Paya, near Cachi, in the Calchaqui valley (a large town); Hurvina;

Pampa Grande (described by Ambrosetti); Quilmes in the northern part of the valley of Yocavil, containing thousands of *pircas* — perhaps the largest pre-Hispanic Diaguitan settlement known; Anjuana; Loma Rica, with a large burial-ground; Loma Jujuy; Cerro Pintado; Fuerte Quemado; Andahuala (these five all in the Yocavil valley); La Ciénega and Anfama, here chiefly circular alignments of stones, possibly older than the Yocavil valley ruins; San Antonio de Cajon; La Hoyada; Guasamayo; Cerro Colorado de Hualfin; Batungasta (these ruins contain some round turrets of *tapia*); Pucará de Aconquija, a fortified camp of strategic importance; Ciudarcita. In the provinces of La Rioja and San Juan pre-Hispanic ruins in considerable numbers also exist, but very little is known about them. In the southern portion of the Puna de Atacama, the ruins of Antofagasta de la Sierra, Antofalla, Botijuela, Vega del Cerro Gordo, etc., are probably Diaguitan. The "menhirs" (sometimes with pictographs, etc.), usually quite small (except those found by Ambrosetti in the Tafi valley), reported from Tastil, Pucará de Rinconada, Tafi, La Ciénega, etc., were probably of a religious or ceremonial nature. The "dolmens" found at La Ciénega by Quiroga, M. Boman considers to have been "only stones fallen naturally upon one another," true dolmens not existing in this region. Milling stones (*metates*) and "cups" in the rocks are common in these ruins. On the mountain slopes of the Diaguitan territory pre-Hispanic *andenes* (terraces for maize cultivation), so common in Peru, occur but rarely (e. g., at Sayate in the Puna de Jujuy). The so-called "Inca roads" seem not to be found, though pre-Hispanic roads may occur here and there. Interesting are the *apachetas*, or heaps of stones, set up on mountain paths, etc., to which the author attributes (p. 110) a Peruvian origin. The ancient Diaguitan region is rich in ceramic remains, but this art was far less highly developed than it was in Peru, — "the style, however, is Peruvian, and the processes also; it is ordinary Peruvian pottery, without its *chefs-d'œuvre*, its refined and artistic specimens." Forms and decorations are varied. Funereal urns and urn-covers are of special manufacture. More or less crude statuettes of human beings, heads of animals, etc., are characteristic of Diaguitan ceramics. Objects of carved and cut stone include grooved axes, arrowpoints, etc., small figures of human beings and animals (the ancient Diaguitan were skilful in this art), — figurines of domestic animals, still used as talismans by the *métis* of this region and known as *illas*, cylindrical, circular, and fusiform stone objects of various more or less unknown uses.

In the Diaguitan region gold and silver objects of pre-Hispanic origin are rare (e. g. the gold ornaments from La Paya, probably Peruvian in

provenance; a specimen of silver from Rio del Inca), but copper (with a small quantity of tin) implements, ornaments, etc., are numerous, and almost all have their equivalents in ancient Peru (neither the copper bells of La Paya nor the ornamented disks may be genuinely Diaguitan). The only authenicated evidences of pre-Hispanic mining, according to M. Boman, are the *marays* and the remains of *huairas* (furnaces), seen, e. g., at Cobres, on the high plateau of the Puna (p. 135). Owing to the climate prehistoric objects in wood have rarely been preserved in the Diaguitan country; these include the human figurine of Santa María, the sculptured tablets of Quilmes and Calingasta, Pucará de Rinconada, Calama, Chiuchiu, etc. Bone arrowpoints are found all over the Diaguitan territory; cut and carved bone objects (including engravings of human figures, etc.) are not at all rare. Pyrographic gourds also occur, but rarely, since so easily destructible by climate, etc. The textile arts of the ancient Diaguitans produced *ponchos* and other garments of the wool of a species of *Auchenia* (e. g., at Apacheta, Quilmes, etc.), excellent llama-wool fabrics (e. g. at old Tucuman). The *camiseta* or tunic of the Diaguitans was probably of Peruvian origin, and cotton seems to have been introduced into Tucuman by the Spaniards (p. 140). In the old tombs of the high plateau occur leather sandals, like those worn to-day by the Indians of the plateau and by the *métis* of the Argentine valleys. The sepultures and burial-places of the Diaguitan region represent a great variety in the way of disposal of the dead, etc., due, perhaps, to the presence, at different periods, of different peoples. The graves (isolated, in little groups, or forming considerable cemeteries) contain usually one or two individuals, rarely three or four. While at Chañar Yaco and Pampa Grande urn-burial of adults occurs, the funerary urns found so characteristically in the Diaguitan region are generally devoted to young children, for whom special burial-grounds seem to have been provided (as e. g., at El Bañado, near Quilmes). These urns were often much decorated. Urn-burial of infants is unknown in the Ando-Peruvian region outside of its area in the Diaguitan territory, and M. Boman inclines to the theory of sacrifice in explanation of such occurrences, of which the ceremony of the *angelito*, practised by the *métis* of to-day, gives a hint (p. 167). Petroglyphs are very common in the Diaguitan region. Among them are the fine fresco of the cave of Carahuasi (department of Guachipas, Salta), discovered by Ambrosetti, who also found the painted caves of Churcal, Quebrada del Rio Pablo, Quebrada de las Conchas, Quebrada de la Bodega, Quebrada del Chuzudo, etc. Petroglyphs (human, animal, geometric figures) are on record from San Lucas

and Las Flechas, San Isidro, Anjuana, Loma Rica, Quilmes, Las Cañas, Las Chilcas, Loma Colorada, Andahuala, Ampajango, Minasyaco and Chapi, San Pedro de Colalao, San Fernando, Cerro Negro, Condorhuasi, Antofagasta de la Sierra, Peñas Blancas, Bajo de Canota, etc. In style, sign, and figures the Diaguitan petroglyphs exhibit no unity. Many of them, doubtless, are contemporaneous with the ancient ruins and burial-places.

The account of the ruins of La Paya résumés the investigations and descriptions of Martinez, Delgado, Ambrosetti, etc. The Martinez collection was acquired by Ambrosetti for the National Museum at Buenos Aires, the new collection of Delgado for the Mission Française. At La Paya at least five different classes of pottery occur. Among the objects found here were a piece of bronze money of Constantine (307–337 A.D.) and a tooth of the modern horse, both due to the early Spaniards, and suggesting, if not post-Hispanic origins for some of the ruins, an early Spanish interference with them (pp. 242, 246). The cemeteries of El Carmen and Providencia, in the valley of Lerma, investigated in 1901 by M. Boman, are by him attributed to a Guarani people by reason of the burial in crude urns there employed (p. 262), — they represent a culture notably inferior to the Diaguitan. The tumuli of Pucurá de Lerma (investigated in 1901–1903) seem not to have been graves, but served, perhaps, some ceremonial use (p. 292), like the *kuiri* or altar in front of the huts of the modern Indians of the Puna. In the valley of Lerma were also investigated the ruins of Carbajal, Tinti, etc. The pre-Hispanic ruins of the Lerma valley are very heterogeneous, representing, doubtless, different epochs and different peoples. This valley seems to have been occupied before the Diaguitans, by "a people of a much inferior artistic development, probably Tupi-Guarani, immigrating from central Brazil" (p. 318). In the region of the Quebrada del Toro, etc., are described the burial place of Golgota, the village of Morohuasi with its cemetery, the pre-Hispanic roads from Morohuasi to Incahuasi and Payogasta, the petroglyphs of Quebrada del Rosal, the village of Puerta de Tastil, the protoglyphs of Quebrada de las Cuevas and Incahuasi (Acay). All three villages investigated in the Quebrada del Toro, according to M. Boman, date approximately from the period of the Spanish conquest (p. 381). Their ethnic affinities have not yet been determined, but the cultural remains forbid classification with the Diaguitans or with the Atacamas.

That the pre-Hispanic Indian population of the Diaguitan region was quite numerous is shown by the fact that, allowing a family of four individuals to each of the 800 enclosures indicated, the ancient settlement of

Tastil would have contained some 3000 souls (p. 378). At the present moment there are in the region about Tastil only some 50 Indians, eking out a miserable existence. Quilmes, in the Yocavil valley, must have been still larger (p. 102). The population of the whole Diaguitan territory was, of course, not at all so dense. At pages 183–185 M. Boman rejects the theory, attributed to Ambrosetti, of "a common origin of the Calchaquis and the Pueblo Indians of New Mexico and Arizona," a view based upon certain archeological and ethnological resemblances, which are more reasonably interpreted as phenomena of convergence. As to the question of the relations between ancient Peruvian and pre-Hispanic Diaguitan culture, M. Boman, for archeological (*pircas*, *andenes*, ceramics, copper objects, textiles, petroglyphs, etc.), linguistic (Quichua was adopted by the Diaguitans before the Spanish Conquest), folklore (the chief legends and personages known to the Indians of the region to-day are of Peruvian origin, — Pachamama, Chiqui, Llastay, Huairapuca, Pucllay, etc.), and historical (evidence in Montesinos, Garcilaso, and Pachacuti) reasons, reaches the conclusion (p. 187) that "the Diaguitan culture formed an integral part of the Ando-Peruvian culture, and emanated almost entirely from ancient Peru, the difference between the two not being greater than existed between different parts of the Inca empire, e. g., between the Entre-Sierras of Peru and the region of the Collas." The Yunca region, he thinks, presents ethnographic differences more marked than the Diaguitan. The Peruvian origin of Diaguitan culture is due probably to Inca domination, but not necessarily so. In the opinion of the reviewer, this Peruvian origin is by no means proved.

The second volume of M. Boman's work will be welcomed by all interested in the archeology and ethnology of this remarkable region of South America.

ALEXANDER F. CHAMBERLAIN.

*Dictionnaire historique des Canadiens et des Métis français de l' Ouest.* Par le R. P. A.-G. MORICE, O. M. I. Québec-Montréal-Saint-Boniface, 1908. 12°, pp. xli, 329.

This new volume by Father Morice interests the anthropologist by reason of the data concerning the French *métis* of the Far West of Canada. Among these halfbreeds the Athabascan stock is represented by J.-B. Adam (interpreter to Sir John Franklin; in 1821 he joined the tribe of the Couteaux-Jaunes), F. Beaulieu (the first French Athabascan *métis* on record, born in 1771 of a Montagnais mother; he made a map for Sir John Franklin; died in 1872 as chief of the "Yellow-Ribs"), B. Pépin, guide and *aide* to Mgr. Grandin, when about 13 years of age, in 1863,

and for long afterward well known as guide, etc., in the region west of the Great Slave lake), P. Saint-Germain (interpreter for Sir John Franklin in 1821; son of a Montagnais mother), X. Tourangeau, etc. The Kutenai is represented by the *Morigeon* family of the Columbia lakes, noticed by Father De Smet in 1845. De Smet spells this name differently, and, when the writer of this notice was at the Columbia lakes in 1891, the descendants of this man called themselves *Morigeau*. The Siouan stock counts the Rainvilles or Renvilles, notable in the history of the American Northwest. The Algonquian stock is represented by large numbers of French-Cree and French-Ojibwa (and Sauteux) *métis*, not a few of whom have risen to distinction in the social and political world of Manitoba and the provinces to the west. One misses from Father Morice's list here Hon. John Norquay, premier of Manitoba in the '80's. The *métis* seem also to have often furnished chiefs to various Indian tribes, Athabascan and Siouan in particular. The first *métis* to become a priest of the Catholic church was P. Beaudry, ordained in 1901 by Mgr. Grandin. To the sketch of Father Lacombe (pp. 139–142) others of priests and missionaries of more or less note might, perhaps, have been added.

ALEXANDER F. CHAMBERLAIN.

## SOME NEW PUBLICATIONS

AMERICAN ETHNOLOGICAL SOCIETY. Transactions. Volume III, part 1. New York: George P. Putnam, 1853. "Reprinted in facsimile by the American Ethnological Society, 1909." 8°, iv, 202 pp.

A facsimile reprint of this rare publication, most of the original edition of which was destroyed by the burning of a printing office. The papers composing the volume are: I. Observations on the Creek and Cherokee Indians, by William Bartram, 1789, with Prefatory and Supplementary Notes by E. G. Squier. II. Observations on the Archæology and Ethnology of Nicaragua, by E. G. Squier. III. Rio Wanks and the Mosco Indians, a Letter from Don Juan Francisco Irias. IV. A Choctaw Tradition: Extracts from a letter to the Ethnological Society, by Rev. C. C. Copeland. V. The Aborigines of the Isthmus of Panama, by Berthold Seeman. VI. Cuban Antiquities, a Brief Description of Some Relics found in the Island of Cuba, by Andres Poey, of Havana.

BOMAN, ÉRIC. Antiquités de la Region Andine de la République Argentine et du Désert d'Atacama. Tome I. Mission Scientifique G. de Créqui Montfort et E. Sénéchal de la Grange. Paris: Imprimerie Nationale, 1908. Roy. 8°, xi, 388 pp., 2 maps, 32 pls., 28 figs.

See review, page 307.

CHERVIN, ARTHUR. Anthropologie bolivienne par le Dr. Arthur Chervin, membre de la Commission des Voyages et Missions et du Comité des Travaux Historiques et Scientifiques au Ministère de l'Instruction Publique, etc. Tome II. Anthropométrie. Paris: Imprimerie Nationale. Librairie H. LeSoudier, 1907. 4°, iv, 435 pp., 13 figs.

DELAFOSSE, MAURICE. Le Peuple Siéna ou Sénoufo. (Reprinted from Revue des Études Ethnographiques et Sociologiques.) Paris: Paul Geuthner, 1908–1909. 8°, 107 pp., 8 pl.

DOUGLAS LITHGOW, R. A. Dictionary of American-Indian Place and Proper Names in New England; with many Interpretations, etc. Salem, Mass., 1909. 8°, xxii, 400 pp.

GOULD, GEORGE M. Righthandedness and Lefthandedness, with Chapters Treating of the Writing Posture, the Rule of the Road, etc. Philadelphia and London: J. B. Lippincott, 1908. 16°, 210 pp., ill.

HEWETT, EDGAR L. Ancient Ruins of the Southwest. Issued by the Passenger Department, Denver and Rio Grande Railroad. [Denver, 1909.] 24 pp., ill.

HRDLIČKA, ALEŠ. Tuberculosis among certain Indian Tribes of the United States. Bulletin 42, Bureau of American Ethnology, Washington, 1909. 8°, vii, 48 pp., 22 pl.

LEHMANN, WALTER. Methods and Results in Mexican Research. Translated from the German by Seymour De Ricci. Paris: 1909. 12°, ii, 127 pp.

Originally published in the *Archiv für Anthropologie* (VI, 1907, p. 113–168) and now translated and published at the expense of the Duc de Loubat.

MILLS, WILLIAM C. Certain Mounds and Village Sites in Ohio. Vol. 2, part 1. Explorations of the Seip Mound. Columbus, Ohio: F. J. Herr Printing Co., 1909. 4°, 57 pp., ills.

MUMFORD, EBEN. The Origins of Leadership. A Dissertation submitted to the Faculty of the Graduate School of Arts and Literature in Candidacy for the Degree of Doctor of Philosophy (Department of Sociology). Chicago: University of Chicago Press, 1909. 8°, iv, 87 pp.

SOMLO, F. Der Güterverkehr in der Urgesellschaft. Notes et Mémoires Instituts Solvay, Fasc. 8, Bruxelles, Leipzig, 1909. 8°, viii, 186 pp.

SPECK, FRANK G. Ethnology of the Yuchi Indians. Dissertation presented to the Faculty of the University of Pennsylvania for the degree of Doctor of Philosophy. University of Pennsylvania, Anthropological Publications of the University Museum, Vol. I, No. 1. Philadelphia: 1909. Roy. 8°, 154 pp., 16 pl., 42 fig.

STARR, FREDERICK. Ethnographic Notes from the Congo Free State: An African Miscellany. Proceedings Davenport Academy of Sciences, Davenport, Iowa, 1909, vol. XII, pp. 96–22, 13 pl., figs.

STEWART, CAROLINE T. The Origin of the Werewolf Superstition. University of Missouri Studies, Social Science Series, vol. II, no. 3, pp. (iv–) 37. Columbia, Mo., 1909.

WEULE, KARL. Native Life in East Africa. Translanted by Alice Werner. London: Sir Isaac Pitman & Sons, Ltd., 1909. Roy. 8°, 432 pp., 200 ill.

WISSLER, CLARK, *ed.* The Indians of Greater New York and the Lower Hudson. Anthropological Papers of the American Museum of Natural His-

tory, vol. III. Hudson-Fulton Publication. New York : 1909. 8°, xv, 242 pp., 23 pl., 39 figs.

A series of interesting and timely articles, as follows : The Lenapé Indians of Staten Island, by Alanson Skinner ; Aboriginal Remains on Manhattan Island, by James K. Finch ; The Indians of Washington Heights, by R. P. Bolton ; Archeology of Manhattan Island, by Alanson Skinner ; The Rock-shelters of Armonk, New York, by M. R. Harrington ; Indian Rock-shelters in Northern New Jersey and Southern New York, by Max Schrabisch ; Ancient Shell Heaps near New York City, by M. R. Harrington ; Notes on the Mohegan and Niantic Indians, by F. G. Speck ; Archeology of the New York Coastal Algonkin, by Alanson Skinner.

WISSLER, CLARK. Notes Concerning New Collections. Anthropological Papers of the American Museum of Natural History, vol. II, part III, 305–372 pp., 22 pls., 23 figs. New York : 1909.

An elaborate descriptive catalogue of the more important ethnological collections received, otherwise than through field research by the Museum staff, from 1906 to 1908.

# FOREIGN NOTES

## Grooved Axes in Europe

In the southern part of Italy, chiefly in the province of Calabrie, grooved axes are from time to time found by the peasants, by whom they are regarded with awe and thought to be "thunderbolts" of mysterious origin. Probably twenty such specimens are preserved in various Italian collections, but few are to be found elsewhere. The Kircheriana Museum in Rome has several very good examples which are similar to the ordinary grooved axe of the Mississippi valley and eastern United States.

Three grooved axes recovered from a station of the Bronze age on the Lake of Bourget, in Savoie, are to be seen in the museum at Chambéry, France. All are made of a hard stone and there appears to be no question of their authenticity. One specimen has a high ridge on each side of the groove, the groove and ridges extending entirely around the axe. The most interesting of the three is of the double-edge type; it is rather thin, but well proportioned, with a groove passing round the middle. The material is diorite. The third specimen is of the ordinary American form.

There is a small grooved axe in the Historical Museum in Neuchatel, Switzerland, but it is without doubt an American specimen.

Nilsson, in his work on Scandinavia, figures and describes grooved axes. One is of diorite, another of hornblende. They were found in Scania, the southern province of Sweden, but they are evidently even less numerous there than in Italy.

D. I. Bushnell, Jr.

## Prehistoric Remains at Olympia

The investigations of the German School at Olympia, according to *The Hellenic Herald* for April, 1909, have resulted in the discovery of many remains of prehistoric date, and may be said to have set beyond doubt the truth of the old legends which ascribed the importance of Olympia to a time before the Dorian invasion, about the beginning of the first millenium before our era. Excavations have been made under the supervision of Dr Dörpfeld around the Metroon and the Treasuries, where remains of early and small dedicatory temples were found. At a depth of two meters below the foundation of the Metroon, and six meters

below the surface ground about the Treasuries, were found many ancient habitations which must be dated 2000 B.C. In a black sandy stratum were found sherds and other earthenware objects, which in their form and incised decoration show clear kinship with pottery found on neolithic sites, "contemporary with Pelops and Œnomaos," says Dr Dörpfeld.

### An Ancient Dug-out

What is perhaps the largest prehistoric relic found in England has just been secured for the Hull Municipal Museum, according to *Nature* for May 27. This is the well-known "dug-out" boat found during excavations at Brigg, Lincolnshire, in 1886. The boat is cut from a single piece of oak, more than 48 feet in length and 6 feet in width — a much larger size than any oak tree living in Britain to-day. With the boat were found many interesting relics, and these have also been presented by Mr V. Cary-Elwes. Mr T. Sheppard, the curator of the museum, has successfully removed the boat to its new quarters, where it forms a welcome addition to the already large series of Lincolnshire antiquities.

### Fru Signe Rink

We regret to announce the death, April 19, in Kristiania, Norway, of Fru Signe Rink, widow of the late H. Rink, formerly Danish governor of Greenland and supervisor of the Greenland commerce, and known all over the world for his valuable contributions to the ethnology of the natives of Greenland and the Eskimo people generally. Fru Rink survived her husband many years, and was the author of several little books and other writings on the tales, home life, and traditions of a people with whom she had a partial connection by blood. Probably no one in Europe had a more intimate knowledge of their character, though it was with difficulty she could be persuaded to the publicity of authorship. Personally she was of a most kindly, hospitable, and vivacious disposition, and her death will leave sorrow in many hearts. A daughter resident in Kristiania survives her. — W. H. Dall in *Science*.

# ANTHROPOLOGIC MISCELLANEA

**Kutenai Basketry.** — Neither in G. Wharton James' *Indian Basketry*[1] nor in the late O. T. Mason's comprehensive monograph on *Aboriginal American Basketry*[2] is any basketry of the Kutenai Indians described or figured. In the list given on pages 367–372 of Professor Mason's work as including "the names of those tribes known to collectors as makers of any kind of basketry, especially in North America, together with the linguistic families to which they belong, and their locations," the Kutenai (or Kootenay) are not mentioned, and the collections in the United States National Museum at Washington apparently contain no specimens of their basketry. The Kutenai, however, have manufactured and used a considerable variety of objects and utensils coming properly under the head of basketry. Captain Palliser,[3] who visited the Kutenai country in 1857–1860, mentions their "plates and dishes of basket-work from pine root." In the fifty years that have elapsed since his visit the art of making the water-tight basket of split roots has been almost forgotten by the Upper Kutenai, though still in use among the Lower Kutenai, who are slower in abandoning their aboriginal characteristics than the former have been. One of these root-baskets, collected by the present writer among the Lower Kutenai, is now in the Ethnological Museum of the University of Toronto. It was figured in his Report on these Indians to the British Association for the Advancement of Science in 1892,[4] and appears to be, up to the present, the only specimen of Kutenai basketry on record. The general term for these root-baskets is *yitski*, and from the fact that they were used to hold water in stone-boiling, etc., they have come to be known among the Indians who know some English as "kettles," and the term is now often applied to the corresponding cooking utensils of the whites. The *yitski* was of all sizes, from very small ones (toys perhaps) to some, two feet or more in diameter, used for transportation, storage, and other like purposes. Another sort of wickerwork vessel, or basket, of the Lower Kutenai, is termed *nā'hēk*, a name also given to certain "baskets" of birch-bark. The Kutenai also manufactured a conical basket-trap for

[1] Second edition, Pasadena, Cal., 1902, 274 pp.

[2] Rep. U. S. Nat. Mus., 1902, Washington, 1904, pp. 171–548.

[3] Journals, etc., London, 1863, p. 90.

[4] Eighth Report on the N. W. Tribes of Canada, London, 1892, p. 23.

fish, known as *yā'kā*, the inverted cone in the center being called *yā'kā nā'na*, i. e. little *yā'kā*, and also *ā'qkiLwī'is yā'kā*, i. e. "the heart of the *yā'kā*." In connection with the *yā'kā* was used a sort of dam of wicker-work and sticks termed *āqk'wū'kǫō*. The grass bags of the Nez Percés were also known to the Kutenai at *ātsōt*. From the reed or rush known as *tā'nāL* the Kutenai used to make simple mats, with which they covered their lodges. Palliser says (p. 161), in reference to the flat and swampy land to the south of Flatbow (Kutenai) lake: "From these swamps also the Kootanie Indians obtain the klusquis or thick reed, which is the only article that serves them in the construction of their lodges, and the klusquis is an article of barter with them to the other tribes, whose lands do not produce this necessary." That the Kutenai, at this time, possessed only "rush lodges," is, however, not correct, as indeed appears from another passage in the *Journal*, when we read (p. 95): "We came upon a few recently deserted tents of the Kootanie Indians; these, unlike the buffalo-skin lodges of Indians on the Eastern side of the Rocky Mountains, are formed of flat boughs of the cyprée and pruche, and are covered with birch-bark."

ALEXANDER F. CHAMBERLAIN.

**The Pan-American Scientific Congress,** held at Santiago, Chile, December 25, 1908, to January 5, 1909 reached the following agreement with reference to ethnological museums and the study of anthropology, which will prove of interest to all students in the Western Hemisphere:

*Ethnological Museums.* — The Pan-American Scientific Congress agrees:

(1) To recommend to the governments of the American republics the desirability of building in each geographic zone, ethnological museums in order that the existing archeological material may be increased and that the investigations in this field be encouraged.

(2) To solicit from the governments of these republics the adoption of the resolution agreed upon by the scientific congress at Montevideo in which it is urged that the objects of ethnologic value found in old cemeteries, etc., be declared public property.

(3) To recommend to these governments to regulate the manner in which excavations may be made, so that they may be made only by persons with proper authority.

*Study of Anthropology.* — The Pan-American Scientific Congress recommends the adoption of the following steps in order that the study of anthropology may be furthered:

(1) The founding of a chair of anthropology in the universities where such chair does not yet exist.

(2) Elementary studies of anthropology should be added to the study of natural sciences in secondary schools.

(3) An office of anthropological measurements should be established in every school, and the data obtained should be published periodically.

**Shell Embroidery from Florida.** — The curious example of shell-work shown in figure 66 is preserved in the Pitt-Rivers Museum at Oxford, England. It was formerly in the Ashmolean collection.

The specimen is said to have been collected in Florida about 1865, but nothing more is known of its history. Only one other piece of work

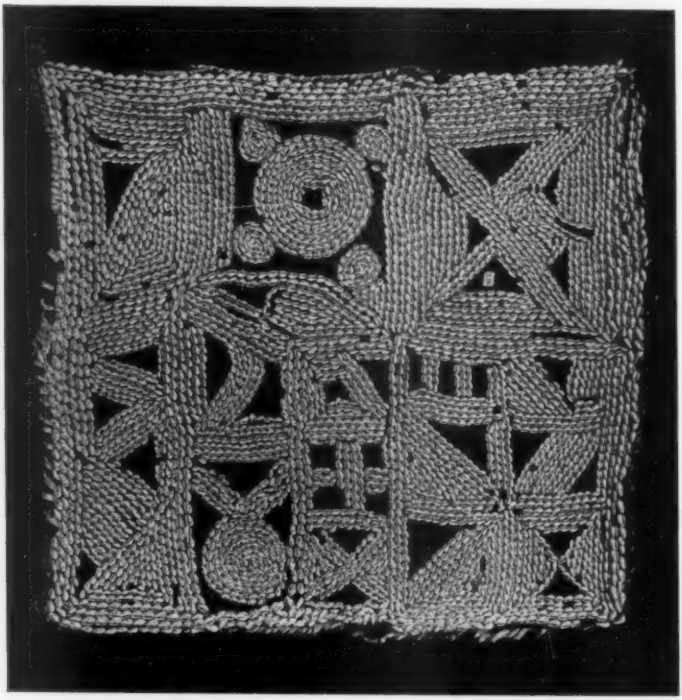


FIG. 66. — Shell-embroidered fabric collected in Florida, 1865.

of a similar nature can be traced by the writer — the unique piece in the Ashmolean Museum bearing the label "Pohatan, King of Virginia's Habit," which has already been described and figured in this journal (N. S., 1907, vol. 9, p. 38, pl. v). The decoration of the Virginia specimen is formed of the small shell *Marginella nivosa*, which differs

only slightly from *Marginella labrosa*, similarly used on the piece from Florida.

The Florida example is 19½ inches square, woven or braided of a fiber, evidently native, but which has not been identified. A narrow strip of rawhide is woven along the edge, apparently intended to form a border.

It is not possible to say what the different parts of the decoration may have been designed to represent, and the piece as a whole is quite unlike anything known in American collections.

D. I. Bushnell, Jr.

**Radical Defects of Ethnology.** — Ethnologists have done somewhat more than sociologists to make their field definite, still there are some grave shortcomings in the present condition of the study. Ethnologists claim to study races, but with all the progress of science there is not only a general lack of agreement on the question as to what constitutes a race, but ethnology has not taken enough care to determine the meaning of the word itself. Does the term *race* denote people of to-day who resemble each other in one or more particulars, physical or cultural, whatever their parentage may be, or does it denote people who are born of the same stock, whatever their present similarities or dissimilarities? Passages may be singled out from the writings of almost every eminent ethnologist which would serve to show that he has confused these two ideas. There can be no middle course. Adopting such, one would simply multiply blunders and create confusion in the science. If ethnologists are to take account of *de facto* similarities or dissimilarities, studies in philology would have very little to do with the classification. Mankind should be examined and classified regardless of past history.

What should the principle in our classification be? Should it be skin color, or hair section, or facial or nasal indices, or physiological systems? There is no general agreement in accepting one and rejecting the rest. No rule has been laid down, no guide to the selection of such a principle. If we accept the historical import of the word *race*, then the studies would take a somewhat different form. In this case what we would desire would not be the present similarities or dissimilarities, but we would want to recover the history of human migrations and of the formation of races. In tracing this history all information which deductions from philology, the measurements of skull, nose, face, height, and section of hair, the determination of pigmentation, etc., could give, would prove useful data, not for classification but for history. Thus our study

of races would be a study of the separations, migrations, isolations, convergences, and intermixture of peoples.

In his lectures on ethnology Professor Walter F. Willcox of Cornell University has given a rule for choosing the principles for classification. In biology, species are classified with reference to the relative permanence of different characteristics; in the opinion of Professor Willcox the same principle may be applied to the study of the races. I have not seen this view clearly expressed in any of the treatises on ethnology, although it possesses merits well worthy of consideration by the students in this field. If this view be accepted, inquiry into the relative permanence of different physical characteristics of man should be undertaken, and its acceptance would bring about more definiteness to the science.

What inquiry should be assigned the term *ethnology* need not be dwelt upon. I only insist that the two inquiries should be properly differentiated and a suitable name be assigned to each.

SHRIDHAR V. KETKAR.

HARVARD UNIVERSITY.

**Indian Stone Constructions near Salton Sea, California.** — At the request of Professor W. H. Holmes of the Bureau of American Ethnology, an examination was made of alleged Pueblo ruins on the border of the Salton sea, which recently have been the subject of highly-colored press notices. The ruins are situated at the extreme edge of the great sink, nine or ten miles south of Thermal, a station of the Atlantic and Pacific R. R., about 135 miles east of Los Angeles. In company with Mr B. F. Bond, who first brought the site to notice, the writer visited the locality, which is of the most forbidding character. The high-water line of the old sea is plainly marked, and below it occur seven terraces within a distance of about 500 feet from the ruin of the cliff and with a vertical drop of about 75 feet. The beach is covered with weatherworn and rounded masses of granite, of all sizes, from that of a marble to pieces weighing tons, but chiefly about the size of a pail. At the lowest well-defined terrace are pens varying in size from a few feet to 12 by 14 feet, having three sides, the opening being northward, or toward the old sea. The walls are built of stones, laid loosely, with base broad enough to retain the original height of 3 to $3\frac{1}{2}$ feet. Small irregular stones cover the bottom, which often slopes at an angle of five degrees to ten degrees. On the open side of the pens is a pile of stones occupying approximately one-third of the distance between the wings and about as high as the side walls. The pens in the main line are about 30 feet apart and extend for

hundreds of yards along the terrace, while above and below the line are many not so well preserved and less uniform in shape. The surface about the pens is bare rock and shows no traces of human occupancy, but along the old well-defined trails leading from the sea back into the cañons and up into the high mountains, and in some other places, are found fragments of the most inferior red-brown undecorated pottery.

Clearly these constructions were not habitations, and their scattered situation on the terrace precludes the theory that they were gardens.

At the missionary's house at Martinez, an intelligent young Mission Indian said that his people regarded the stone pens as fish traps and state that their traditions relate that their ancestors made and used them for catching fish, the open side next the sea being for the purpose of holding the net when the tide was going out. This seems the most plausible explanation of the purpose of these curious structures. The Indian also said that some of the ancient houses of his people back in the mountains are of stone, and that they had places of burial and ceremony.

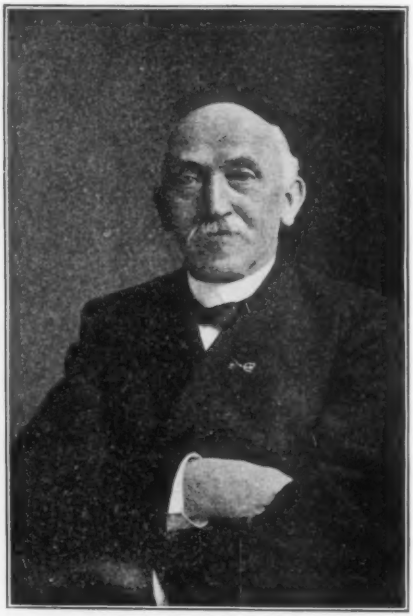
P. G. GATES.

SOUTH PASADENA, CALIFORNIA.

**British Association Meeting.** — The provisional program of Section H (Anthropology) of the British Association for the Advancement of Science, for the Winnipeg meeting, beginning August 25, has now reached us, says *Nature*. In arranging the proceedings of the section an attempt has been made, so far as possible, to cover the latest developments in anthropological science. Dr T. Ashby, director of the British School at Rome, will deal with archeology in the western Mediterranean; Mr R. M. Dawkins, director of the British School at Athens, with archeology in the eastern Mediterranean; and Mr D. G. Hogarth with the archeology of Asia Minor, with special reference to the Hittites. Miss Breton will review the present state of our knowledge of the arms and armor and of the physical type of the ancient inhabitants of Central America. It is hoped that the first results of an expedition which Dr Haddon is now conducting among the natives of the western coast of North America may be available for the meeting. A number of prominent anthropologists of the United States have promised to contribute to the proceedings of the section. Among these may be mentioned Dr Franz Boas, who will deal with anthropological problems in Canada; Miss Alice C. Fletcher, who will read a paper on her work among the Omaha people; papers will also be contributed by Dr Gordon, of the University of Pennsylvania, and Mr Clarence B. Moore, of Philadelphia. Dr Harry Piers, of Halifax,

Nova Scotia, will deal with our present knowledge of the natives of Nova Scotia, and Mr C. Hill-Tout will present his final report on the natives of British Columbia. The valuable reports which have been presented to the Association from year to year by Mr Hill-Tout are the results of work undertaken under the auspices of the Canadian Ethnographic Survey Committee of the British Association, now defunct. In this connection it may be mentioned that papers dealing with the urgent necessity for an ethnographic survey of Canada will be contributed by Mr E. S. Hartland and Dr F. C. Shrubsall. Professor J. L. Myres is president of the section.

**Dr J. D. E. Schmeltz.** — We regret to announce the death of Dr J. D. E. Schmeltz, director of the State Museum of Ethnography at Leyden,



J. D. E. Schmeltz

Holland. Dr Schmeltz was born at Hamburg in 1839 and began his work in the Godeffroy Museum in that city, whence he was called to Leyden in 1884 as assistant of Dr Serrurier. Later he became director

of the Museum, and the development of the collections during the last twenty years has been due to his untiring energies. He was the founder and editor of the *Internationales Archiv für Ethnographie.*

**The American Ethnological Society** has reprinted Volume III of its Transactions, containing the important paper by William Bartram on the Creek and Cherokee Indians, written in 1789, and also the papers by E. G. Squier on the Archeology and Ethnology of Nicaragua, by J. F. Irias on the Rio Wanks and the Mosco Indians, by C. C. Copeland on a Choctaw Tradition, by Berthold Seeman on the Aborigines of the Isthmus of Panama, by Andres Poey on the Antiquities of Cuba. The original volume was never issued, almost the whole edition being burned with the printing establishment. It is claimed that only fifty copies of the original edition were saved, but presumably a smaller number was preserved. The volume may be obtained from the American Ethnological Society, Sub-Station 84, New York City. The price is $1.25.

**An Alabama Anthropological Society** has been established. It is composed of twelve active members, residents of Montgomery, and of such associate and honorary members (an unlimited number) as may be hereafter elected. There are to be twelve meetings each year, each member submitting one paper. It is planned to issue from time to time publications of a scientific nature and a yearly bulletin containing the twelve papers submitted during the year. The first regular meeting took place on July 22. The officers are: Thomas M. Owen, LL.D., president; Herbert B. Battle, Ph.D., vice-president; Peter A. Brannon, secretary; Buckner Beasley, treasurer. The proceedings of the Society will appear in the next issue of the *American Anthropologist.*

Professor Frederick Starr of the University of Chicago plans to leave for Japan early in September. His trip will cover ten month's time, of which eight months will be spent in the Island Empire, with headquarters at Tokyo. While he has many subjects of minor interest for investigation during his proposed trip, Professor Starr has two main purposes in view: (*a*) by aid of competent hired readers to get at the valuable anthropological, ethnographical, and archeological material contained in Japanese books — a mass of important matter almost unknown and inaccessible to the outside world; (*b*) to make one of the most complete photographic records of Japan yet taken — scenery, life, arts and industries, architecture, etc. A moving-picture apparatus, a stereoscopic outfit, and high-grade regular cameras will be carried to the field; Mr Manuel Gonzales, his regular photographer, will accompany Professor Starr on the entire expedition.

THE LIVERPOOL UNIVERSITY INSTITUTE OF ARCHÆOLOGY is publishing an excellent quarterly, in octavo form, under the title *Annals of Archæology and Anthropology*. Although the first issue did not appear until September, 1908, the remaining numbers of Volume I were published before the close of the year. The number before us is devoted chiefly to papers on classical archeology, and is well illustrated. The periodical is edited by Professor J. L. Myres, in collaboration with F. P. Barnard, R. C. Bosanquet, J. G. Frazer, T. W. Gann, J. Garstang, J. G. Milne, P. E. Newberry, and T. G. Pinches. Under such favorable auspices it is hoped the new magazine will have support commensurate with its scientific and historical value.

MR F. C. COLE of the Field Museum of Natural History, Chicago, who returned from the Philippine islands the first of the year, will depart again for that field in October, accompained by Mrs Cole, for the purpose of continuing his ethnological researches in the southern islands of Mindoro, Palawan, Mindanao, and Negros. Since the untimely death of Dr William Jones, Mr S. C. Simms has been sent by the Museum to the islands for the purpose of continuing the task which Dr Jones had so well begun. It is the intention of Mr and Mrs Cole to make comparative studies in Borneo and the Malay archipelago before returning to the United States.

MR WILLIAM H. SAMSON and Dr Wheelock Rider of Rochester, N. Y., have commenced the publication of a series of reprints, known as the "Rochester Reprints." Wheelock's *A Plain and Faithful Narrative of the Original Design, Rise, Progress and Present State of the Indian Charity-School at Lebanon, in Connecticut* (Boston, 1763), and Penhallow's *The History of the Wars of New-England, with the Eastern Indians* (Boston, 1726), are among the reprints that have already appeared.

ON February 1 of this year the departments of natural history of the Museo Nacional of Mexico became an independent establishment under the name Museo Nacional de Historia Natural, and the museum hitherto bearing the name Museo Nacional became the Museo Nacional de Arqueologia, Historia y Etnologia. The first number of the *Anales* of the latter museum has appeared under date of May, 1909.

DR S. A. BARRETT has been appointed curator of anthropology of the Public Museum of the City of Milwaukee. Under a Wisconsin law this museum recently established an Historical Department which carries with it a considerable annual appropriation that can be used for that purpose only. An addition covering 19,000 square feet and four stories in height is now being built for this department.

Dr Carl Lumholtz has gone to the arid regions of Sonora, Mexico, and the upper part of Lower California to make ethnological research among the Pima, Papago, and Cocopa Indians. He will also study the physical geography of the little-known region between Rio Altar and the mouth of the Colorado. Dr Lumholtz will be gone until next winter, returning in February or March.

Professor F. W. Putnam has resigned the active curatorship of Peabody Museum, Harvard University, and the professorship of anthropology in the University of California, and in recognition of his services has been appointed honorary curator of the Peabody Museum and professor of anthropology, emeritus, in the University of California.

An oil portrait of the late Dr Daniel Garrison Brinton has been presented by Mrs Brinton to the University of Pennsylvania. Dr G. B. Gordon made the presentation address at the commencement exercises, June 16, and the portrait was accepted in behalf of the trustees by Provost Harrison.

Dr R. Verneau has been promoted to the professorship of anthropology at the Museum of Natural History, Paris, recently made vacant by the death of Professor Hamy. The position of assistant to Professor Verneau has been filled by the appointment of Dr P. Rivet.

Dr Frank G. Speck has been appointed instructor in anthropology in the University of Pennsylvania, not in the University of California as has been announced. Dr Speck will spend part of the summer among the Montagnais Indians of Canada.

A grant of 4000 francs from the Bonaparte fund of 25,000 francs has been made by the Paris Academy of Sciences to M. Chevalier to assist him in carrying on his geographical and ethnographical researches in the French colonies in tropical Africa.

At the annual meeting of the Anthropological Society of Washington, held April 20, Dr J. Walter Fewkes was elected president, Mr James Mooney vice-president, Dr John R. Swanton secretary, and Mr George C. Maynard treasurer.

Professor F. W. Putnam has been elected honorary member of the Società Italiana d'Antropologia, Etnologia e Psicologia Comparata of Florence, Italy. Since 1887 he has been a corresponding member of this society.

Sir Francis Galton has made a further donation of £500 to the maintenance of the Laboratory for National Eugenics under the direction of Professor Karl Pearson of the University of London.

THE Lucy Wharton Drexel medal of the University of Pennsylvania has been awarded to Rudolph Ernest Bruennow in recognition of his exploration and scientific research in Arabia and Syria.

BY the will of Miss Emma Sarah Wolfe bequests of £1000 each are made to the Royal Anthropological Institute of Great Britian and Ireland and the Royal Archæological Society.

DR GEORGE A. DORSEY has obtained leave of absence from the Field Museum of Natural History, Chicago, and will spend the next three years in Europe.

DR ROLAND B. DIXON, assistant professor of anthropology in Harvard University, is spending the summer in New Zealand and Australia.

DR A. M. TOZZER of Harvard University has been given leave of absence for 1909–10 to carry on archeological investigations in Guatemala.

DR A. W. NIEUWENHUIS has succeeded the late Dr Schmeltz as editor of the *Internationales Archiv für Ethnographie*, published at Leiden.

WE regret to record the death, on March 6, of Professor August Mau, noted especially for his archeological researches in Pompeii.

DR FRANCIS GALTON was elevated to a baronetcy on the occasion of King Edward's birthday.